

**DETERMINANTS OF CHILDREN'S ENGAGEMENT IN OUTDOOR PLAY: CASE
OF ECD CENTRES IN KWALE COUNTY, KENYA**

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DECLARATION

I declare that this research project is my original work and has not been presented for academic awards in any other university. This research project has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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DEDICATION

I dedicate this work to my parents, brothers, and sisters for their prayers and moral support and my spouse Caren Maria for her encouragement during difficult times of my studies.

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First, I thank the Almighty God, the creator of the universe for giving me strength, good health, and mental stability to complete this project successfully.

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May the Lord bless you.

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ABBREVIATIONS AND ACRONYMS

ACRW	African Charter on the Rights and Welfare of the Child.
DICECE	District Centre for Early Childhood Education.
ECD	Early Childhood and Development.
CDC	Centre for Disease Control and Prevention.
GECEP	Guidelines for Early Care and Education Programme.
GoK	Government of Kenya.
KICD	Kenya Institute of Curriculum Development.
MoEST	Ministry of Education, Science and Technology.
NACOSTI	National Commission for Science, Technology and Innovation
NASPE	National Association for Sports and Physical Education.
PE	Physical Education
UK	United Kingdom
USA	United States of America
UNCRC	United Nations Convention on the Rights of the Child.

ABSTRACT

Outdoor play is a basic element of child's holistic development. And because children spent most of their time in ECD Centres, educators should understand how to provide

them with sufficient play opportunities. In Kenya, there are many studies documented on outdoor play, but these studies failed to explain the school related factors that influence children engagement in outdoor activities. Thus, this study sought to investigate personal and material factors that determines children outdoor play behaviours. The study findings may help the Ministry of Education, County Government and educators to make right decisions regarding outdoor play in ECD Centres. The study was pegged on Maria Montessori's theory of play. The literature reviewed in this study included availability of play materials, time allocation for outdoor play, teacher involvement in children play, and nature of outdoor playgrounds. Descriptive survey design was employed to explore determinants of children's engagement in outdoor play. As per this study, children's engagement in outdoor play was the dependent variable while independent variables comprised of aspects such as availability of play materials, allocation of time for outdoor play, teachers' involvement in children's play and nature of outdoor playgrounds. The study targeted 240 ECD Centres in Kwale County. Stratified random sampling was used to generate two strata: public and private, while simple random sampling was adopted to obtain 35 ECD teachers. Head teachers were purposively selected from each sampled ECD Centres. Data were gathered using questionnaire and observation checklist. The questionnaire was administered to teachers (n=35) and head teachers (n=24) while the observation checklist was used to record researchers' observation about the available play materials, nature of playground, teacher's roles during outdoor play and time allocated for children's play activities. Qualitative and quantitative data analysis procedures were employed. Data were presented using frequency distribution tables, pie-charts and graphs. Chi-square was used to test the correlation between dependent and independent variables at level of significant of 0.05($P < 0.05$). The results of this study established that available play materials, teachers' involvement, allocated time, and the characteristics of play spaces encourages children participation in outdoor play activities. Based on these findings, the study recommended that; educators should invent ways of acquiring more play equipment, KICD should increase time for outdoor lesson, the County Government should ensure schools are registered and they comply with ministry guideline on playgrounds, and school management should fence the playgrounds to keep unwanted guests at bay.

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.0 Introduction

This section discusses the background of the study. It also covers sub-topics that include statement of the problem, purpose of the study, research objectives, research questions, significance, limitations and delimitations of the study. The section also presents basic assumptions of the study, theoretical and conceptual framework, and operational definition of terms.

1.1 Background to the Study

Children all over the world including those living in wealthy families in cities and those that live in remote villages in developing countries have a right to play. Since 1989, United Nations Convention on the Rights of the Child (UNCRC) has been enshrining this right with the aim of ensuring that all children across the world get the full benefits of play (Brown & Freeman, 2001). Moreover, children have the right to play, to rest and to engage in cultural and artistic activities (ACRW article12, 1999).

Play is an integral part of early childhood curriculum. Through play, children have better opportunity to acquire self-confidence, self-independence, physical and social skills (Muthoni, 2016). For preschool children to grow and reach their full potential, educators should provide them with safe and sufficient outdoor play opportunities. This is because a child's holistic development is promoted through play (Bergen, 2002).

In the modern school environment, children engagement in play has been hampered by the emphasis the preschool management put on academic assessments, standards and accountability. For instance, some schools around the world play abolished play activities

with the aim of ensuring a quiet school environment for academic learning (Stipek, 2006). In particular, public preschools and kindergartens in America have set strict system that is teacher-centered with the aim of improving literacy and numeracy of the pre-schoolers at the expense of play time (Golinkoff, Hirsh-Pasek, & Eyer, 2004). And as a result, children in these schools have less time to play.

Play and children's engagement in spontaneous activities have diminished in the last two decades as a result of some factors such as the emergence of computer games, television and modern technological products. Other factors that have led to the depletion of children's engagement in play activities include fears for parents about the safety of their children, inadequate quality outdoor play spaces and limited time for children play activities in schools (Singer, 2005).

Some people across different parts of the world believe that play is a waste of time and has little value, however; Clement and Sarama (2009) asserts that play is the great time to build new knowledge from the previous experience. Preschool teachers in some regions of the world have recognized the significance of play in children's development. Outdoor play not only provides children with a multitude of learning benefits but it helps improves the child's health, too (Heather, Melinda , Ahn, & Fedewa, 2014; Park & Riley, 2015). Due to this fact, educators are now providing children with opportunities for both structured and spontaneous play.

A study by (Smilansky, 1990) shows that children play is enriched and stimulated by teachers' involvement. Teachers may be involved in preschool children play via providing materials, supervising and guiding children on some play activities. The

presence of educators during children outdoor play is associated with positive child development, but Christie and Wardle report (1992) revealed that teachers and adults need not to interfere with children free play. The idea of teachers supervising and watching children as they play during may hinder them from socializing freely and alter their willingness to solve individual conflicts (Pellegrini, 1984).

Children need a reasonable amount of time to play (Christie & Wardle, 1992). When insufficient time is provided to them, they get discouraged on sophisticated forms of play. Christie and Wardle proposed for 30-60 minutes for both children's indoor and outdoor play activities. Cullen (1993) points out that adult restrict children to participate in play via their organization and management of timetables. He also draws the attention on the fact that teachers' participation limits the occurrence of stereotype forms of play among children. This means that it is important to provide enough time in order to satisfy children's interest for play.

Abbott and Nutbrown (2001) maintain that environment is pivotal for play to develop and flourish. Both outdoor and indoor environments are crucial and they have to be well structured. The zones within the outdoor space should be designed with the aim of helping children to satisfy their individual interest (Esbensen, 1987). Play equipment and objects within school playgrounds should reflect the cultural diversity and have to be readily available and accessible to children. Play is either supported or hindered by the manner in which the play materials are stored and available to children (Sylva & Sammon, 1999).

A study done in Nigeria on teacher's perceptions and provisions on outdoor play for children revealed that outdoor play offers many benefits to children. According to this study, teachers believed that children who spent more time playing fall ill less often than others, who stays inactive. Further, the findings of this study found that 50 per cent of sampled teachers perceive their roles during children's outdoors as supervising, coaching and instructing children on how to play (Okoruwa, 2017).

Kenya through the MoEST adopted a preschool curriculum that emphasis on play as an integral element in preschool teaching and learning. Preschool syllabus in Kenya encourages teachers to use play and play materials in teaching and learning process at the preschool level (KICD, 2008). Regardless of the preschool syllabus requirement about play, teachers still focus more on improving children's literacy and numeracy performance at the expense of play. It has even gone to an extent of pre-schoolers getting remedial lessons during weekends to improve their numeracy and literacy skills. Teachers of Kenyan preschools are encouraging rote learning instead of including play as a method of teaching-learning process.

Kenya has introduced a new curriculum across all the levels of education. At the preschool level, psychomotor and creative activities are among the key components of the new curriculum. According to the new preschool curriculum, children gross and fine motor skills development is essential as it helps them to control and coordinate their body parts. Currently, the preschool curriculum points out that play and physical activities give children opportunity for physical exercise, thus facilitating proper blood and oxygen circulation in their body (KICD, 2017).

Recent studies conducted in Kenya on children's outdoor play seem not to focus on the factors that determine children's engagement in play, but rather they appear to emphasize on outdoor play and children development as well as other aspects. These studies include; determinants of quality outdoor play environment in early childhood development centres (Wanjiku, 2016), effects of outdoor activities on development of preschool physical skills (Akoth, 2016), influence of preschool children safety in their participation in outdoor play (Macharia, 2012) and Ochanda (2015) on impact of play equipment on children participation in outdoor play. The above studies fail to explore factors that determine children engagement in outdoor play. Thus, the present study sought to explore determinants of children's engagement in outdoor play in ECD Centres of Kwale County, Kenya.

1.2 Statement of the Problem

Outdoor play is a fundamental right as well as a vehicle for learning for all children. Globally, researchers such as (Muthoni, 2016; Brown & Freeman, 2001) have found that outdoor play has many benefits to children such as social, emotional, cognitive and physical. This implies that children should be provided with enough time for play in order to enjoy learning. Unfortunately, some preschools do not give outdoor play the attention it deserves, but rather keep emphasizing on academic improvement. Thus, it is necessary to find out whether teachers in Kwale County provide enough time for children to engage in outdoors.

There is scanty of information on factors that determines children engagement in outdoors play in Kenya. Because of this, the study retrieved its literature from developed countries like USA and UK where children's outdoors activities are extremely treasured.

Kenya Institute of Curriculum Development (KICD) has been in the frontline in educating teachers on the importance of bringing children out of classroom for outdoor play. Taking the lead of showing the significance of outdoor for preschool children, KICD through the preschool syllabus recommend that outdoor activities should be scheduled on a daily basis within a duration of 30 minutes. Furthermore, in the new curriculum, KICD has greatly emphasised on play and learning.

Some international researchers such as (Smilansky, 1990; Christie & Wardle, 1992) have indicated that playgrounds play materials and teachers' roles influence children engagement in outdoor play. Conversely, research studies that have been done in various counties in Kenya in the past one decade did not reveal exactly the factors that determine children outdoor play. Thus, the study sought to establish school factors that influence children engagement in outdoor play.

1.3 Purpose of the Study

The study was to explore school determinants of children's engagement in outdoor play in the ECD Centres in Kwale County. This study focused on both material and teacher factors that could influence children's participation in outdoor play.

1.4 Objectives of the Study

The study was guided by the following objectives:

- (i) To find out how availability of play materials influences preschool children's engagement in outdoor play in Kwale County.
- (ii) To assess how time allocation for play determines preschool children's participation in outdoor play in Kwale County.

(iii) To find out how teacher's involvement in play influences preschool children's engagement in outdoor play in Kwale County.

(iv) To determine the extent to which the nature of outdoor playgrounds influences preschool children's engagement in outdoor play in Kwale County.

1.5 Hypotheses

The study was based on the following hypotheses:

(i) H₁. There is a relationship between availability of play materials and preschool children's engagement in outdoor play in Kwale County.

(ii) H₁. There is a relationship between time allocated for play and preschool children's participation in outdoor play in Kwale County.

(iii) H₁. Teachers' involvement in play has a significant influence on preschool children's engagement in outdoor play in Kwale County.

(iv) H₁. There is a relationship between the nature of outdoor playgrounds and preschool children's engagement in outdoor in play Kwale County

1.6 Significance of the Study

The study may be important to preschool teachers as it may sharpen their skills regarding involvement in children's play, selection of play materials, provision of sufficient time for outdoor play, and setting up of the stimulating outdoor play spaces.

The findings of this study may be important to the Ministry of Education, as it may use it to create awareness to ECD educators, and stakeholders on matters pertaining play in preschools.

The findings of this study may shed light to the County government on current situation of ECD Centres in Kwale County regarding outdoor play and learning. This way, the

County Government may invent techniques to ensure that children are provided with necessary facilities in order to participate fully in outdoor play.

Finally, the findings of this study may help ECD educators, school managers, MoEST, and the County Government to understand areas that need improvements in the ECD centres.

1.7 Limitations and Delimitations of the Study

The following subsections describe the limitations and delimitations of this study.

1.7.1 Limitations

The study was limited to the fact that some participants wondered how they would benefit from being part of this project. This made them feel that there was no need for them to fill in the questionnaires. To overcome these challenges, the researcher provided a thorough explanation about the purpose of the study. Another limitation was that some of the sampled preschools were situated in areas with no public transport due to poor roads. This situation hindered the researcher from gaining access to such ECD Centres. To solve this problem, the researcher used motorbikes to reach such destinations.

1.7.2 Delimitations

Although many factors may influence children's participation in play, this study focused on school determinants of children's engagement in outdoor play. The study was delimited to ECD Centres in Kwale County. As a result, the findings may not be generalised to reflect the situation in the whole country. However, generalisation of the findings of this study can be applicable in areas that share similar characteristics with the study population.

1.8 Assumptions of the Study

It was assumed that all the ECD centres in Kwale County engage their children in outdoor play activities regularly, and the respondents gave the researcher honest and true information without bias and prejudice.

1.9 Theoretical and Conceptual Framework

1.9.1 Theoretical Framework

The study embraced Maria Montessori's theory of play. The theory was chosen because it shed light on the play materials, the teacher's roles during children play activities and the play environment. The key component of this theory is based on careful preparation of outdoor play environment. As per the views of Maria, children get interested to engage in play when the habitat is motivating (Montessori, 2004). Therefore, play spaces need to be designed and planned well to pique children's interest to play. As teachers and childcare providers plan for children's play environment, some factors need to be considered: order, beauty, hygiene and safety; having an orderly playground gives children easy time to seek play materials (Standing, 1957).

Montessori advocated for beautiful and child-size play materials. This means that children should be provided with clean and colourful materials. Besides, the theory states that children have freedom to choose the material they like to play with. They should stay active and should be rendered autonomy in order to become conscious of their powers. As much as children continuously depend on adults, they cannot grow as per society's expectations.

The theory supports the concept of teachers' involvement in children outdoor play. Montessori is of the opinion that, as much as children need to be given independence,

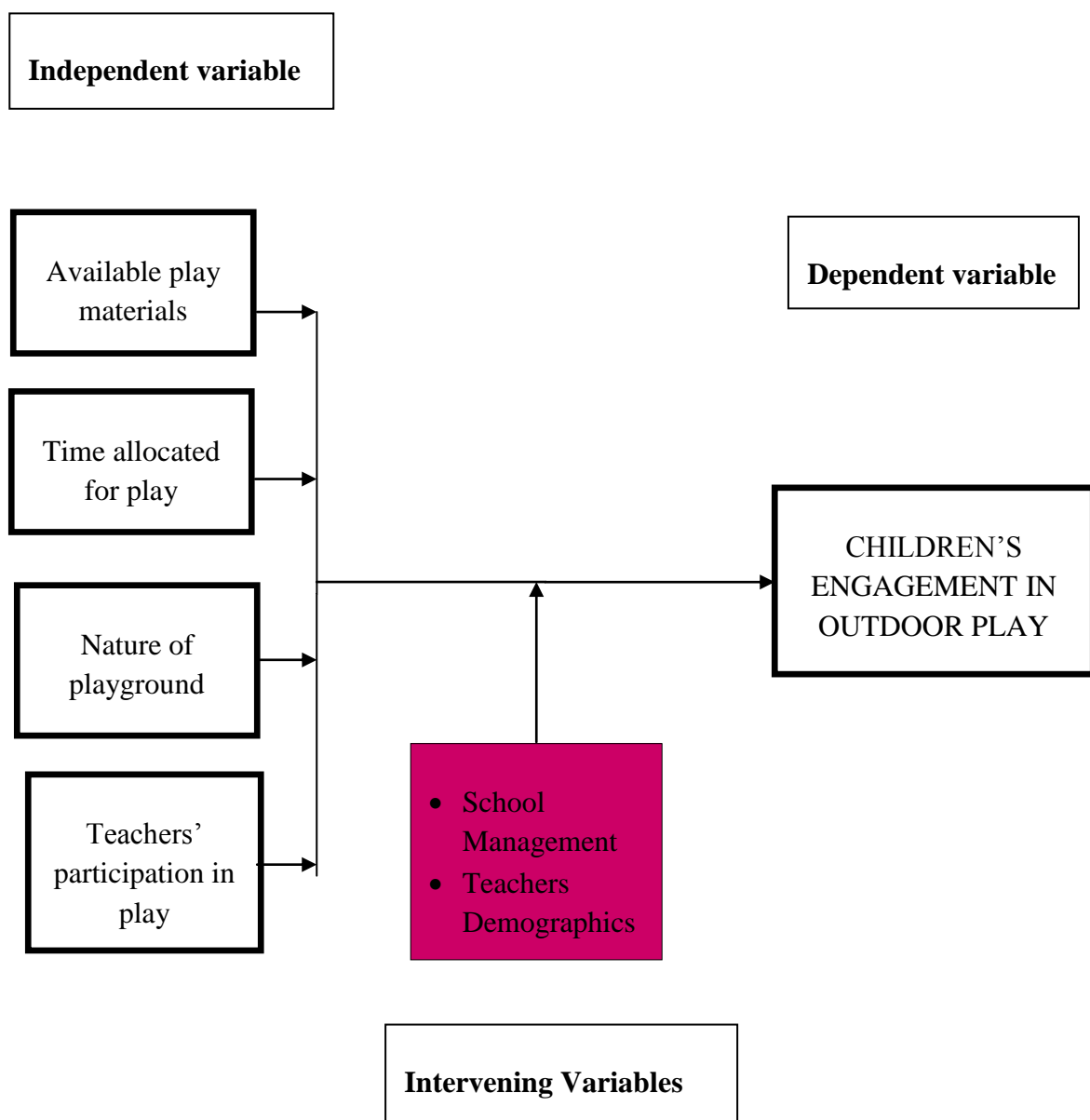
they can only access play materials given by teachers (Standing, 1957). It is the efforts of teachers that children engage in outdoors; teachers plan and decide the best time to take children out of classroom for outdoor play (Okoruwa, 2017).

The philosophies of Montessori intensely support this study on school determinations on children's engagement in play. Through the provision of child-size play materials, children are able to play and reach their full potential. Montessori stresses more on beauty. She points out that children play material should be clean and colourful. When this theory is applied to the study, it is relevant as it establishes the relationship between the provision of play materials, the aesthetic value of the materials and how these aspects determine children engagement in play.

According to Montessori, the role of the teacher is very important as the child can only access materials provided by him. Apart from the provision of play materials, other teachers' roles according to Montessori include guiding children on how to use play materials, observing them, ensuring safety and helping them when needs arise. In the context of this study, teachers may involve themselves in children play in various ways such as guiding, supervising, playing together, helping to make rules, and providing materials among other roles will definitely promote children participation in play.

1.9.2 Conceptual Framework

The conceptual framework of the study was based on the two variables, namely; school determinants of outdoor play and children's engagement in outdoor play.



Key: Study Variables Non-Study Variables

Figure 1.1: Factors Influencing Children's Participation in Outdoor Play

The figure 1.1 shows the interaction of various variables that determine children's engagement in outdoor play. School determinant was the independent variable, and it had some key aspects. These aspects were the availability of play materials, nature of outdoor playground, time allocated for play and teachers' participation in play. Children's

engagement in outdoor play was the dependent variable. This means that the independent variables determined children's engagement in outdoor play. Moreover, the conceptual framework of this study also had intervening variables such as school management and teacher demographics. These intervening variables may affect children's engagement in outdoor play; however, they were not being considered in this study.

1.10 Operational Definitions of Terms

Adequacy of Play Materials is used in this study to describe a situation where an ECD Centre has more play objects than the number of children.

Availability of Play Fields refers to the presence of outdoor play spaces within an Early Childhood and Development (ECD) Centre.

Availability of Play Materials refers to a situation where children can access play items or objects in an Early Childhood and Development (ECD) Centre.

Available Play Materials refers to the play objects which children use while engaging in outdoors play activities in an ECD centre.

Early Childhood and Development Centre refers to a learning institutions or school for children of ages between three and six years.

Engagement in Play refers to the frequency at which children in an ECD Centre participate in outdoor play activities.

Nature of Playgrounds is described in this study as physical appearance or characteristics of outdoor play environment of an Early Childhood and Development (ECD) Centre.

Outdoor Play is used in this study to refer to directed or unstructured play activities which are performed by children outside the classrooms and involve both the physical body and exploration of play materials.

Play Materials are described in this study as items or objects whether natural or man-made used by a pre-schooler in an ECD Centres during outdoor play.

Preschool Children refers to the learners in an Early Childhood and Development Centre whose age bracket is between 3 and 6 years.

Teachers' Involvement refers to the different ways in which preschool teachers and head teacher's contribute towards children's outdoor play activities.

Time Allocation for Play is used in this study to refer the number of minutes or hours allotted in the school timetable specifically for outdoor play activities.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter covers literature review in relation to this study. It covers empirical studies on play materials, time for outdoor play, teacher's participation to play, and nature of outdoor playgrounds. Finally, the summary of the literature reviewed closes the chapter.

2.2 Availability of Play Materials and Children's Engagement in Outdoor Play

Researchers worldwide asserts that play equipment for outdoors offer a list of benefits to the child's early life (Hammond, 2019; KICD, 2008; NACECE, 2000). Children rely so much on play materials such as balls, bean bags, hoops, ropes, and so on, to play (Jenson & Bullard, 2002). When children are exposed to play materials during their early years, they begin to develop their fine and gross motor skills as well as improving their social interaction (Fromberg, 2002).

Studies of play with objects and development of languages skills, mathematical abilities and problem-solving are showing positive results. For example, a study done by (Nath & Szücs, 2014) showed a close correlation between play objects and children's performance in maths and spatial abilities while a comparative study done in Kajiado County by (Ituaruchiu , 2013) with 89 preschool children confirmed that when young learners use play materials during language lessons, they improve their reading and writing abilities. The empirical work of (Sylva, Bruner, & Genova, 1976) revealed that children with an experience of using play materials had inventive approaches to solve problems compared to children with less-experience. This studies While these three studies touch on the impact of play objects on language, maths and problem-solving, there was a need to

investigate the extent to which play materials affect children engagement in outdoor play activities.

Just like indoor play activities, engaging children in outdoor play comes with a lot of benefits (Margaret, 1931). There are many things children can learn when exposed to an outdoor environment that has a variety of play equipment. Margaret believed that outdoor play is the best tool that supports learning at the preschool level. However, a study done in Migori District established that teachers provide children with indoor materials with the view that classroom activities are more important than outdoor play (Millicent, 2010). For this reason, the current study sought to establish whether preschool teachers in Kwale County provide enough play materials for their children outdoor activities.

A study conducted by Wangui (2013) about the relationship between play materials and social emotional development of children in Ngewa zone, Kiambu County found that preschool children who often use materials during outdoor play develops social emotional skills. Also, a similar study by (Wathu, 2016) on the influence of play on social and emotional of preschool children in Kyangwithya zone, Kitui County revealed that there is a strong relationship between play materials and children's development of social and emotional skills (Wathu, 2016). These studies were focusing on social and emotional development and therefore there was need to establish whether available materials in an ECD centre determine children's engagement in play.

For children to participate in play activities, they should be provided with plenty of play materials (Elis, 2000). The reason behind this is that, materials add value to children's outdoor activities. Therefore, parents, childcare providers as well as teachers are

encouraged to provide adequate play materials to help children engage in meaningful play activities. According to the study done by Tarimo (2013) in Mwanza District, Tanzania about teachers' use of play as a teaching strategy found that basic play objects are very essential components in the preschool teaching-learning process. In the study, 57.5 per cent had indicated that there are no enough play materials in their schools. This percentage implies that there are many schools in Mwanza District that have significant shortage of outdoor play materials. Findings of this study indicated that play materials greatly influences teachers efforts to embrace use of play as a teaching method (Tarimo, 2013). However, the above study was focusing on influence play materials in teaching-learning process, but this study sought to explore how play materials determines children's engagement in outdoor play.

2.3 Allocation of Time and Children's Engagement in Outdoor Play

Outdoor playtime is one of the critical element that has a significant impact on children outdoor play activities. This is due to the fact that children engage in more vigorous activities in outdoor spaces than in indoors (Christakis, Kerr, Saelens, Tandon, & Zhou, 2013). As per the provision of *US Guidelines for Early Care and Education Programme* (GECEP), *US Human Department of Health & Human Service*, and *Centre for Disease Control and Prevention* (CDC), children in day care centres should be provided with at least sixty minutes for free play each day (CDC, 2017; US Department of Health and Human Services, 2018). Conversely, results of a study on active play opportunities at American day care centres revealed that children participate in outdoors for only 33 minutes per day. The study concluded that many children do not get sufficient time for

play as schools are not adhering to the recommendations of the US GECEP (Pediatrics, Association, & Education, 2011).

Children need adequate time to play. Studies that were done in England, Japan and Canada found that children in these countries spent less time in outdoor activities (Clements, 2004). In a comparative study done in USA, Japan, France, Germany and UK about time and outdoor play revealed that parents strongly agree that time for their children play is not enough as many schools spent a lot of time in learning (LEGO Learning Institute, 2003). Due to the fact that the above studies were done in Europe and USA, the findings cannot be generalised in this study location. And for this reason, the current study sought to examine whether time allocated for children outdoors in Kwale County is enough or not as well as if allocated time determine the extent to which children engage in outdoor play.

A survey carried out in United States about children playtime reported that mothers agree that children should be give adequate time to play. Ninety five per cent of mothers who participated in the survey reported that it is vital for children to spend the whole day playing (Gryfe, 2005). When mothers were asked whether allocated time for play in elementary schools is enough or not, 61 per cent of them agreed that there's enough time for their children's free play activities in elementary schools. The above study was focusing on mother's opinions while this study focused on the ideas of preschool teachers and head teachers on whether there was enough time for play or not as well as finding out how time allocated for outdoor activities in the ECD centre timetable affect children's engagement in outdoor play.

Brown (2009) states that children spend long hours in the preschool but their time to engage in outdoor play is limited. This corroborates with findings of a study in Nigeria pertaining outdoor play for children and teachers' perceptions. This study found that children get time to play only during break time (Okoruwa, 2017). Further analysis of Okoruwa's study revealed that children in ECD Centres have limited opportunities to play because teachers believe that learning cannot take place during outdoor play sessions. Therefore, there is need for teachers to understand the importance of providing enough time for children outdoor activities.

The results of a study by Mahindu (2011) on relationship between outdoor play and children development of social skills established that some ECD Centres in Kabete zone had allocated 30 minutes while others 40 minutes for outdoor activities. Besides, the study also noted that parents as well as teachers believed that the time set aside for their children play activities is enough. Kenya Institute of Curriculum Development (KICD) has indicated in the pre-primary II syllabus that outdoor activities should be carried out within 30 minutes (KICD, 2008), this recommendation concur with some of the findings of Mahindu's study. The study above was focusing on preschools in Kabete zone, nevertheless; the current study sought to investigate time allocation for outdoors play in Kwale County ECD centres.

2.4 Teachers' Involvement and Children's Engagement in Outdoor Play

Preschool teachers act as care givers. Whether in the classroom or outdoors, they ensure that children are safe. As children engage into outdoor play, teachers primary role is to respond to their individual needs (New, 1992). Some researchers believe that teacher's

involvement in children play should not involve instructing and directing children but rather should provide child-initiated play (Jones & Reynolds, 1992).

Scholars such as (Hildebrand, 1990; Kuebli, 1994; Smilansky, 1990) have different opinions on the roles of teachers during children play. For example, (Hildebrand, 1990) perceived teachers as mediators while (Smilansky, 1990) believe that teachers should enrich children's outdoor play activities. A qualitative study done by (Yang, 2013) in Coventry about teacher involvement on children's play revealed multiple roles of teachers in relation to outdoor play activities. According to this study, teachers are play planners, supporters, facilitators, monitors, co-players, organisers as well as mediators. Additionally, through video observations in a study done in Australia, it was found that teachers take on different roles in children's outdoor play activities. From this study, it was noted that the key duties of educators during children play time are to: (i) supervise them, (ii) provide resources, and (iii) settle disputes among the players (Fleer, 2015). Though these studies provided comprehensive results, the finding could not be used to depict the situation in Kwale County, thus the present study sought to establish teacher's roles during outdoor play in Kwale County.

A study done in Australia by Davies (1997) on teacher's roles during children's outdoor play found that many teachers have similar beliefs that children must be carefully supervised, and teachers should give children freedom to choose the type of play activities they would like to engage in. Teacher's participated in Davies study perceived their roles as monitoring, supervising, and intervening in case children behaviour is inappropriate or when they feel children are unsafe (Davies, 1997). The above study was done in an area which does not have similar characteristics with Kwale County. In the

light of the above findings, this study investigated the roles of teachers in Kwale County during children's outdoor play sessions.

Findings in the study done by Okoruwa (2016) on outdoor play for children and teachers perceptions indicated that teachers reported that their roles in children play are; supervising children to ensure they are safe, coaching the on how to play and resolving children disputes that may arise in the event of play. The study further noted that half of teachers involved in the study believed it is important to join children in play while others asserts that instead of involving themselves in children outdoors, they would rather use that time for other school duties. Despite these findings being interesting, the study was conducted in Nigeria and therefore they cannot be generalised in Kwale County ECD Centres. Therefore, this study examined the roles of teachers in Kwale County during children's outdoors as well as the level of children engagement in outdoor play.

There is too much paper work in preschools that focus on academic improvement over outdoor play. Due to this work, teachers are finding it too difficult to take children out of classroom for play Waithera (2006), cited in (Okoruwa, 2017). Also, in some schools in the world, play has been abolished to ensure quiet environment for academic learning (Stipek, 2006). For example, in a survey along kindergartens in USA, it was found that there's strict school system which is teacher-centred. The aim of this system was to boost the numeracy and literacy of pre-schoolers at the expense of play time (Golinkoff, Hirsh-Pasek, & Eyer, 2004). These findings means that teachers roles are linked to classroom work rather than outdoor play.

A study done in Kisumu by Ojuondo (2015) on the influence of play on children development of language skills indicated that teachers have a primary role of organising and planning children play activities. In this study, 76.9 per cent of sampled head teachers confirmed the importance of preschool teacher's involvement in children's outdoor play. They strongly believe that teachers set a centre stage to children play; they select safe materials, supervise and monitor them. Waithaka (2010) in her study on children's involvement in informal games and play in Kiambu County established that when teachers participated in children's play, children were enthusiastic to engage in play activities. A similar study by Wangari (2011) found that when teachers participate in children outdoor activities, they prompt their interest to take part in play as well. The findings in the above studies were focusing on relationship between play and development of language skills. Conversely, this study sought to explore the roles of teachers and head teachers in children outdoor play and how this roles influence children's participation in outdoor activities.

2.5 Nature of Outdoor Playgrounds and Children's Engagement in Outdoor Play

Changes in the philosophical understanding of free play have contributed to the development of various types of playgrounds. Both private and public school worldwide has employed modern art-facts and designs in the planning of their play spaces. To ensure that playgrounds are stimulating and attractive to children, the results of a study done by Islam *et al* (2002) recommend that schools should do proper landscaping by including open spaces for plantations, water body zones, shade, and proper coverage of the ground (Islam, Kawsar, & Ahmed, 2002).

While play spaces should provide opportunities for children to socialise, engage in imaginative play and physical activities, many man-made playgrounds seem insufficient in meeting children's play needs (Martin & Wood, 2010). In USA, (Jack & Christopher , 2013) investigated playgrounds characteristics that attract children to play. Regarding their findings, it was found that children like to play in spaces with the three main features, that is, (i) plenty of equipment, (ii) playgrounds with soft surfaces, and (iii) fenced play spaces. This means that playgrounds should be fully equipped to stimulate children interest to play as well as offer more opportunities for multiple games. The more the play spaces encourages active play, the higher the likelihood for children to participate in play and interact with their peers (NICE, 2010).

Children are attracted to play in spaces which are complex and offer more opportunities for them to explore and manipulate (Heusser, Adelson, & Ross, 1986). A study conducted by (Veitch, Salmon, & Ball, 2008) revealed that children do not frequently visit playgrounds that are not challenging and appealing to them. But when children are exposed to parks and playground that allow them to engage in a variety of outdoor play activities, they become more active and their frequencies of visiting such spaces increases. A play environment with a variety of elements enhances physical activities, social interaction and cognitive development (Dyment, 2005). Therefore, there is need to examine how the nature of preschool playgrounds in Kwale County influences children engagement in outdoor play activities.

Playgrounds in some schools in Australia contain natural elements such as ponds, streams, grassy fields, sandy areas, and trees. Some schools, however, have built structures in their playgrounds such as slides, see-saws and the cemented regions

(Chancellor, 2013). These elements of playgrounds have profound influence to children engagement in active play (Hyndman, 2012). Studies that have been done in developed countries show a close correlation between the nature of school playgrounds and children's interest to engage in outdoor play (Little & Eager, 2010). For instance, a qualitative study conducted in Australia revealed that preschool-aged are attracted to play when they are provided with play spaces with a variety of floors (sandy, grassy, and carpet floors) (Veitch, Salmon, & Ball, 2008). These studies were carried out in regions which do not have similar characteristics with the current study location. For this reason, it is essential to find out the nature of playgrounds in Kwale County ECD Centres.

In a survey across five elementary schools in Australia, it was found that 70 percent of sampled children enjoy active play while 52 per cent reported they like to spend break time on the school field. Also, it was noted that half of the children participated in the survey believed that their school play space is small in size and it lacked necessary natural features such as grass, sand and trees (Ozdemir & Yilmaz, 2008). The study was focusing on children's opinions and therefore, this study sought to find out teacher's views on whether the size of the playground is enough or not.

An experimental study done in Norway on natural environment as a playground revealed that children have multiple choices of play when exposed to play habitat with a diversity of natural elements (Fjørtoft, 2001). The study further noted that play landscape has a profound effect on children's behaviour as well as play performance. This study concurs with the ideas of Rivkin (1995) who argues that preschools enjoy playing in fields with grassy, sandy, water and digging areas. The above were international studies and cannot be generalised to reflect the situation in Kwale County, therefore, one of the objective of

this study was to investigate the nature of preschool playgrounds in Kwale County and the impact these playgrounds have to children's outdoor play.

A study done by Macharia (2012) on relationship school playgrounds safety and the participation of preschool children in outdoor play activities in Naivasha revealed that 45 percent of the sampled preschools have both grassy and sandy playgrounds. The study further showed that 70% of public ECD Centres involved in the study didn't have built structures in their playgrounds. Findings on the above study focused on playground surfacing and children's safety. However, this study sought to examine whether different play surfaces in the preschool playgrounds influences children's engagement in outdoor play.

In Kisumu city, a study on relationship between playground and cognitive development found that sampled school had various play materials in their playgrounds. However, these materials were not suitable for children's cognitive development (Kerich & Okioma, 2015). The study recommended that teachers and head teachers need to provide variety of play equipment and plan, organise, and reassure play spaces to enable children participate in multiple games. When the playground is fully equipped, children tend to have interest to play, and as a result, they develop holistically. Another study that conducted five years ago in Mombasa County to establish the roles of playgrounds facilities on preschool children's participation in outdoor play activities revealed that availability and type of playground facility are the primary determinants of children participation in outdoors activities (Asaji, 2013).

2.6 Summary of the Literature Reviewed

Though many scholars claimed that outdoor play is an essential component of the preschool curriculum, it is crucial to examine school factors that stimulate children to play. The literature reviewed in this study does not illuminate what inspire preschool children to take part in outdoor play activities, and in particular, young Kenyan learners. Also, there are plenty of studies conducted in Kenya in the last decade; however, none of them had touched on factors determining children engagement in outdoor play. And so, it appeared there is a need to investigate factors that push children to participate in the outdoor games in Kwale County.

There are a few studies done in developed countries to investigate the impact of materials and teacher's factors on children outdoor play. Even though the analysis of these international studies generated helpful and comprehensive results, their findings could not be generalised to reflect the current situation in Kwale County, Kenya. Thus, it was imperative to explore school determinants of children engagement in outdoor play.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter belabours the research design, variables and location of this study. It focuses on the target population, sampling procedure, sample size, and research instruments. It also presents pilot study, validity and reliability, detailed description of data collection tools and methodology used to answer the research questions.

3.2 Research Design

The study adopted descriptive survey design to explore determinants of children's engagement in outdoor play. This design is described by (Fraenkel, Wallen, & Hyun, 2012) as gathering information about a particular issue via asking specific questions to a large population. This research design was suitable in this study because (i) it enabled the researcher to get responses from preschool teachers and head teachers on what determines children participation in outdoor play, (ii) it helped the researcher to gather facts about teacher's ideas, attitudes and perspectives on school determinants of children's engagement in outdoor play, and (iii) enabled the research to collect both qualitative and quantitative data which was integrated later during the interpretation of results (Creswell & Plano, 2011).

3.3 Variables

The following subsection describes the independent and dependent variables of the study.

3.3.1 Independent Variables

These are variables manipulated by the researcher with an aim of causing a change of dependent variable (Kombo, 2006). In this study, the independent variables were: (i)

availability of play materials, (ii) teacher's involvement in play, (iii) allocated time for play, and (iv) nature of playgrounds. These variables were measured as follows:

- (i) Availability of play materials. This variable was measured by establishing the existence of the play materials and whether the materials are enough.
- (ii) Teacher involvement in children's outdoor play. It was measured by determining the roles and contributions of preschool teachers towards during outdoor play sessions in ECD Centre.
- (iii) Allocation of time for outdoor play. It was determined by indicating in the questionnaire whether the ECD Centre had set aside time for outdoor play or not. It was also measured by confirming the number of minutes or hours tied to outdoor play activities as per school timetable and by teacher's responses about the adequacy of time.
- (iv) Nature of playgrounds. This variable was measured by determining whether the school had a playground and characteristics of the surfaces of the playground.

3.3.2 Dependent Variable

This is the variable expected to change as a result of experimental manipulation of the independent variables (Kombo, 2006). Children's engagement in outdoor play was the dependent variable of this study. It was determined by establishing frequency in which children participate in outdoor play.

3.4 Study Location

This study was carried out in Kwale County, which is in the southern part of Kenya coastal region. The location was purposively chosen for this study because of

researchers' observations; there were many ECD Centres which had emerged in the past five years due to tourist's support. Besides, there was a competition between Islam and Christianity regarding which religion offers the best early childhood education services. Due to this competition, a high number of religious-based ECD Centres had been established in the past five years. These centres were situated in residential homes; therefore, they have limited outdoor spaces and play materials. Majority of public attached ECD Centres, on the other hand, had a high population of children such that the available play spaces and materials are not enough. These observations had raised the need to find out the determinants of children's engagement in outdoor play in these ECD Centres.

3.5 Target Population

The study targeted all preschool teachers in Kwale County. There were 240 ECD Centres (184 public attached and 56 private owned). These schools spread evenly in the county, and they had approximately 350 teachers, that is, 240 teachers in public and 110 teachers in private owned ECD Centres. Moreover, it was expected that each school had one head teacher.

3.6 Sampling Techniques and Sample Size

The following subsection describes the sampling techniques and sample size of this study.

3.6.1 Sampling Technique

The study employed stratified random sampling. The technique enabled the researcher to come up with two strata, that is, public and private. From the strata, the researcher used simple random sampling to select 18 public attached and six private owned ECD Centres

out of the targeted 240. The technique was suitable in this study because it enabled each ECD Centre in the county to have an equal chance of being selected. The head teachers in the 24 ECD Centre were purposively chosen while simple random sampling was adopted to select 35 preschool teachers who participated in this study. The Table 3.1 below represents the sampling frame of this study

Table 3.1: Sampling Frame

Type of ECD Centre	Target Population			Sample Size		
	No. Schools	Head Teachers	Preschool Teachers	No. Schools	Head Teachers	Preschool Teachers
Public	184	184	240	18	18	27
Private	56	56	110	6	6	8
Total	240	240	350	24	24	35

3.6.2 Sample Size

This study used 10% of the total targeted population. A sample size that ranges between 10% and 30% is a good representation of the target population (Mugenda & Mugenda, 2003). There were 24 head teachers and 35 preschool teachers in the sampled schools. The sample comprised of 24 ECD Centres which was equivalent to 10% of the selected schools.

3.7 Research Instruments

There were two primary instruments used in this study; questionnaire and an observational checklist. Below subsection provides a detailed description of the two instruments:

3.7.1 Questionnaire for Head Teachers and Preschool Teachers

In this study, questionnaires were administered to both head teachers (n=24) and ECD teachers (n=35). This instrument was used because it can collect data in a large geographical area within a short period of time (O’Leary, 2014).

The questionnaire for head teachers had two sections: section **A** and section **B**. The items in section **A** measured demographic information of the teachers while those that were in section **B** gathered data on school determinants of preschool children’s engagement in outdoor play (**See appendix I**).

The questionnaire for preschool teachers was made up of five key sections. The first section (A) was about demographic data, the second section (B) dealt with play materials for outdoor play while the third section (C) comprised of items to gather information about time allocation for outdoor play. The fourth section (D) consisted of items that dealt with teachers’ participation in children’s play, whereas the last section (E) had items that sought to gather information about the nature of outdoor playground (**See appendix II**).

3.7.2 Observation Schedule

This study also adopted an observation schedule with the aim of solving the challenge of biases that could occur when respondents were giving information through the questionnaire. The data collected via observation schedule supplemented the information that was gathered by the questionnaires. This instrument was used to capture data on nature of outdoor playground, available outdoor play materials and teachers' participation in outdoor play (**See appendix III**).

3.8 Pilot Study

Piloting is essential as it enables the researcher to polish the instruments and remove any ambiguous items (Bell, 1993). Before the beginning of this study, a pilot study was carried out on four ECD Centres in Kwale County to determine the validity and reliability of the instruments. The ECD Centres that were involved in the pilot study comprised two public attached and two private owned. These 4 ECD centres that took part in the pilot study were not included in this study. The pilot study helped the researcher to delete and rephrase ambiguous questions in the questionnaires as well as determined the clarity of the observation schedule. The pilot study was primarily conducted to determine whether there were deficiencies regarding the design of the study being carried out.

3.8.1 Validity of the Instruments

Content validity of the instruments was determined before the actual study. This was purposively done to ensure that the instruments measured exactly what they intended to measure. Both face and content validity were considered in this study. Face validity was done via piloting and enabled the researcher to determine the clarity of items in the questionnaire. The questions that were found ambiguous were reviewed and restructured in a way such that they became easy to understand.

The use of expert judgement is the best way to improve the content validity of the research instruments (Borg & Gall, 1989). For this reason, the researcher prepared questionnaires and observation checklist while consulting his supervisor. The idea of consulting the supervisor helped the researcher to come up with a comprehensive and effective tools that covered every aspect of the study objectives and variables.

3.8.2 Reliability of Instruments

An instrument is regarded as reliable when it yields consistent results after being tried repeatedly (Kothari, 2004). The researcher used the test-retest technique to find out the reliability of the questionnaire and observation schedule. First, the questionnaires were administered to the four ECD Centres during the pilot study. Second, the questionnaires were re-administered again in the same four ECD Centres after two weeks to confirm whether the responses in the two occasions were consistent. Finally, comparisons between test and re-test results were correlated using Pearson Product Moment Correlation formula and reliability coefficient of 0.75 was obtained. This correlation was in line with the recommendation of (Mugenda & Mugenda, 2003).

3.9 Data Collection Procedure

Data were collected within 2 weeks with two sub-counties being visited in each week. Questionnaires were given to the head teachers and preschool teachers during break and lunch time depending on the preschool. The researcher collected the questionnaires back when the head teacher and preschool teacher completed filling them. The researcher also used the observation schedule to record data on available play materials, nature of outdoor playground and teachers' roles during children outdoor play sessions.

3.10 Data Analysis

Both qualitative and quantitative data analysis procedure were adopted in this study. The researcher was guided by research objectives to analyse the data in the form of themes and sub-themes. First, the researcher examined the demographic information of both head teachers and preschool teachers. Then, the researcher went step by step to analysed data on the school factors that determine preschool children's engagement in play. At this step,

the researcher maintained the themes and sub-themes that emanated from the data gathered. Frequency distribution tables (including frequencies and percentage), pie charts and graphs were used to present the data. Both descriptive and inferential statistics were employed in quantitative analysis. Chi-Square was used to test all the statistical hypothesis.

3.11 Ethical and Logistical Consideration

First, before beginning the process of data collection, the researcher obtained permission from the graduate school, Kenyatta University (**See appendix IV**). Thereafter, the researcher sought a permit from the National Commission for Science, Technology and Innovation (NACOSTI) which enabled him to collect data from one sub-county to another (**See appendix V**). Finally, the researcher sought permission from the head teacher before collecting data from the sampled preschools.

After obtaining authorisation from Kenyatta University graduate school and NACOSTI, the researcher pre-visited the sampled ECD Centres, mainly to seek permission from head teachers and create rapport with teachers and pre-schoolers as well. During the pre-visits, participants agreed with the researcher the best time and date for data collection.

3.11.1 Privacy and Confidentiality

The researcher assured the participants that the information gathered would be treated with highest level confidentiality. The researcher guaranteed the participants that whatever was filled in the questionnaires would not be shared to a third party and would be used precisely for academic purpose. Likewise, study participants were given codes which helped them to hide their identities.

3.11.2 Informed Consent

The researcher took 10 minutes and made a verbal request for the participant to take part in this study. This request involved explaining the participant the intention of conducting this study. The researcher also told the participants that they had the freedom to deny or accept to take part in the study.

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter focuses on data analysis, results and discussion. The purpose of this study was to investigate determinants of children's engagement in outdoor play in ECD Centres of Kwale County. The analysis, findings and discussion were organised based on the study objectives that had been stated as follows:

- (i) To find out how availability of play materials influences preschool children's engagement in outdoor play in Kwale County.
- (ii) To assess how time allocation for play determines preschool children's participation in outdoor play in Kwale County.
- (iii) To find out how teacher's involvement in play influences preschool children's engagement in outdoor play in Kwale County.
- (iv) To determine the extent to which the nature of outdoor playgrounds influences preschool children's engagement in outdoor play in Kwale County.

4.2 General and Demographic Information

This sub-section presents the return rate and the demographic information of the study respondents.

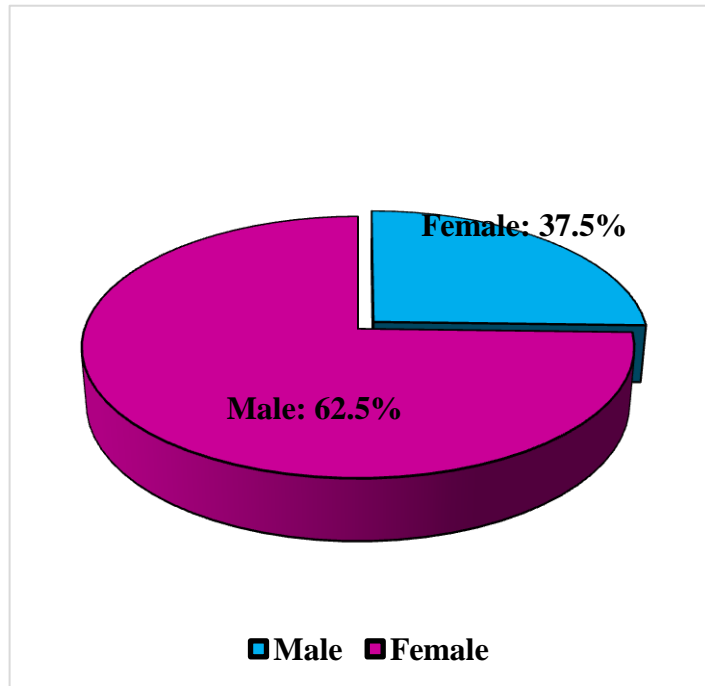
4.2.1 General Information

This study targeted both head teachers and preschool teachers. A total of 24 and 35 questionnaires were administered to the both head teachers and preschool teachers respectively. All the sampled 59 participants were able to fill in the questionnaires making a return rate of 100%.

4.2.2 Demographic Information of the Respondents

The participants of this study were head teachers and preschool teachers. General and demographic information of the respondents were collected and analysed as follows:

Figure 4.1: Gender of Head Teachers



Twenty-four head-teachers participated in this study. Figure 4.1 shows that about 62.5% of sampled head teachers who participated in this study were male while the female was about 37.5%. This data implies that there were more male head teachers in Kwale County than female head teachers. This finding corroborates with a report from England by (HM Government, 2007) which stated that despite low proportion of male teachers in nursery and primary school, male teachers are still likely to get promoted to headship.

Preschool teachers were also asked to state their gender and Figure 4.2 presents the findings.

Figure 4.2: Gender of Preschool Teachers

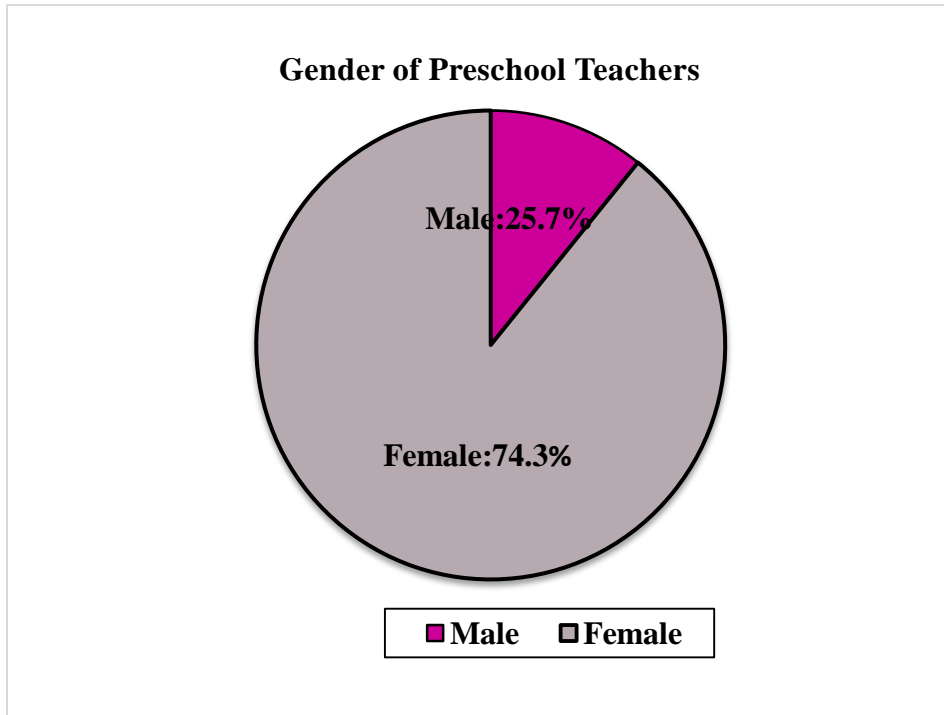
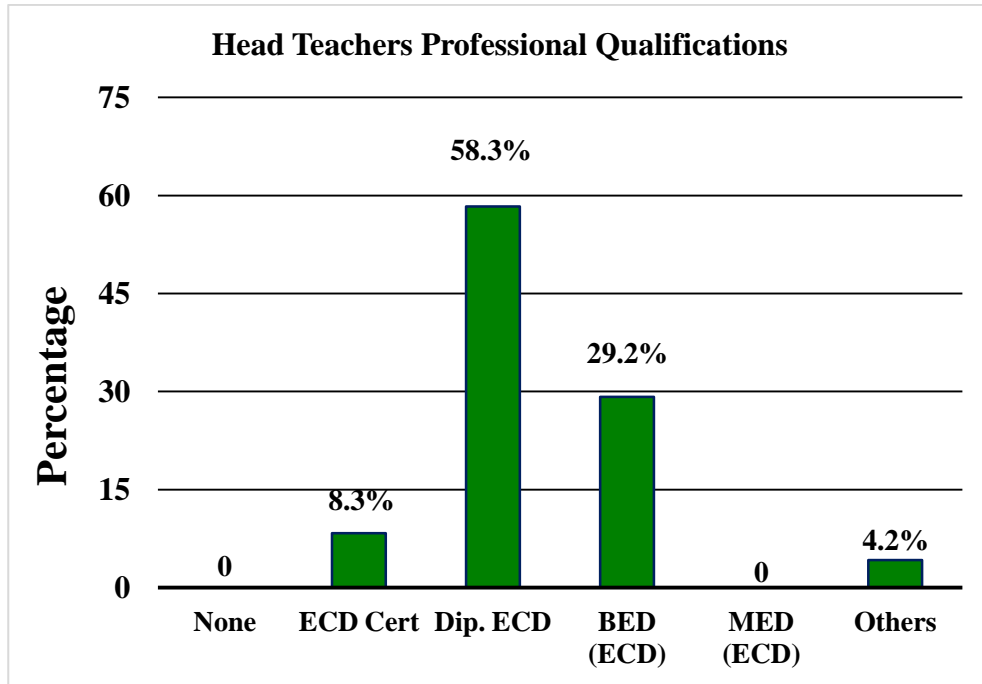


Figure 4.2 indicates that 74.3% of preschool teachers who participated in this study were females while males were 25.7%. Therefore, the finding shows that there are more female preschool teachers in Kwale County than Males. This data as well concurs with findings of global research such as a survey from Sweden and Turkey which found that there is a higher number of female preschool teachers than male (Hedlin & Åberg, 2013).

During data collection exercise, head teachers were asked to state their professional qualification and Figure 4.3 presents the findings.

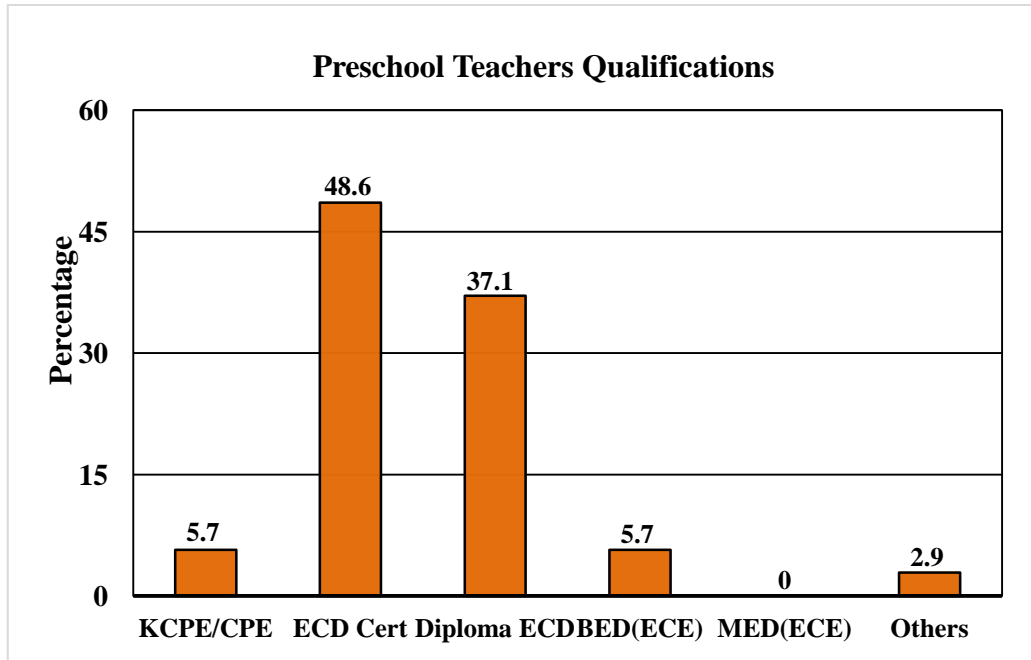
Figure 4.3: Head Teachers' Professional Qualification



As shown in Figure 4.3, the most substantial proportion of sampled head teachers had Diploma of Early Childhood Education and Development (58.3%), followed by (29.2%) of head teachers who had bachelor of education degree from the university. Those with Certificate of Early Childhood Education and Development were (8.3%) while about (4%) of the sampled head teachers had other professional qualifications. It was revealed that no head teacher in the sampled population had a degree of master of early childhood education as well as non-professional. This finding implies that professional and qualified head teachers headed most of the preschools in Kwale County. It can be also argued that head teachers with a higher level of qualification can create policies that give every child an excellent opportunity to participate in the outdoor play.

The preschool teachers were also asked to state their professional qualification and Figure 4.4 presents the findings.

Figure 4.4: Preschool Teachers Professional Qualifications



As shown in Figure 4.4, the study findings revealed that the largest number of sampled teachers (48.6%) had Kenya Certificate of Early Childhood and Development Education, followed by those with Diploma of Early Childhood and Development Education (37.1%). Those with a bachelor degree in early childhood education and those with KCPE/CPE each made up about (5.7%) of the sampled teachers, while those with other professional qualification were (2.9%). This finding corroborate with other findings from different parts of Kenya such as Kiambu (Wangui, 2013) and Kilifi (Ntondwe, 2017) which also established that the most significant proportion of preschool teachers have a certificate in early childhood education. This similarity is because the national government in collaboration with County governments has been financing tertiary institutions to train ECD teachers. This means that many professional preschool teachers are available in the job market to take up teaching tasks.

The head teachers were asked to state their level of experience in their respective schools and Figure 4.5 presents the findings.

Figure 4.5: Head Teachers Working Experience

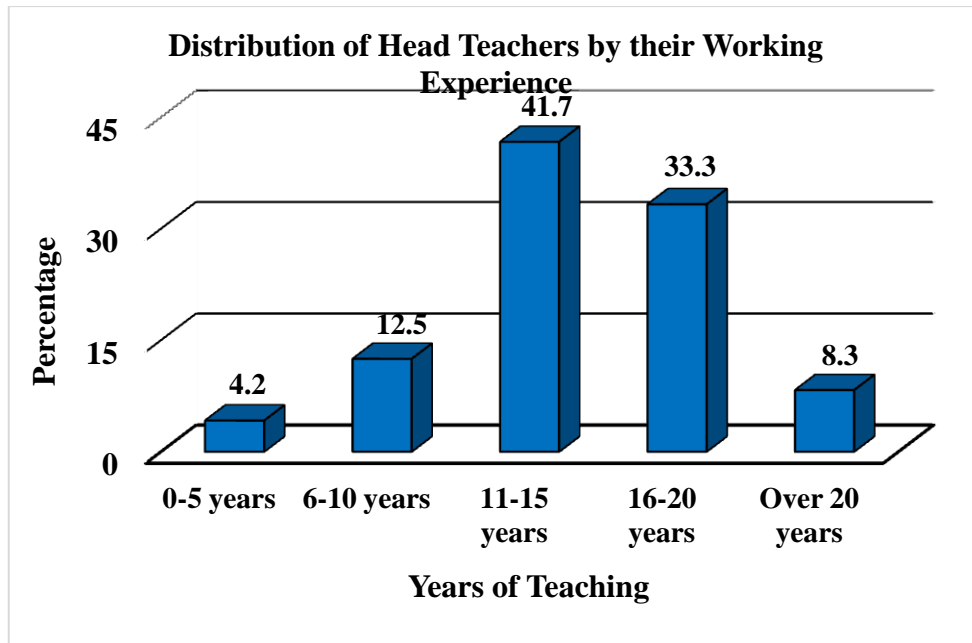
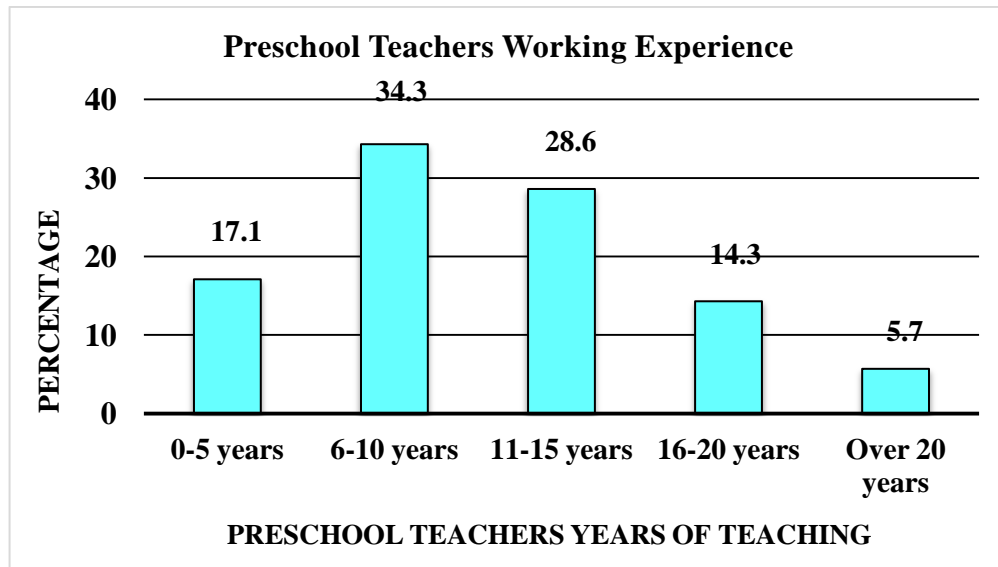


Figure 4.5 indicates that majority of sampled head teachers had teaching experience between 11 and 15 years at (41.7%), followed by a significant number of head teachers with 16-20 years of teaching (33.3%). About 12.5% had between 6-10 years' experience, while those with 0-5 years of work experience made up about 4.2% of the sample while the rest had over 20 years teaching experience at (8.3%). Through this finding, it was revealed that a larger population of head teachers in Kwale County had working experience of 11 and 20 years. These findings on head teachers working experience concurs with (Ochanda, 2015) who established that many teachers with headship positions had a working experience of between 16 and 20 years.

An item was also included in the questionnaires which sought for information on preschool teachers' level of work experience and figure 4.6 presents the findings.

Figure 4.6: Distribution of Preschool Teachers by their Work experience



As shown in Figure 4.6, majority of sampled preschool teachers had a teaching experience between 6 and 10 years (34.3%), followed by a substantial number of teachers with 11-15 years of teaching at (28.6%). Those with 0-5 years were 17.1% and those with 16-20 years were 14.3% while those who had over 20 years made up about 6% of the sampled preschool teachers. This implies that more than half of sampled preschool teachers had a teaching experience of fewer than ten years. This result confirms the study of Mweru (2012) who established that most of the preschool teachers in Kenya had comparatively a few years of teaching experience. This could be as a result of preschool teachers quitting classroom duties to seek better-paying jobs in other fields (Kinuthia, 2009). These results imply that most pre-schoolers are being handled by less-experienced teachers who are not capable of providing a variety of opportunities for outdoor play activities.

The respondents were asked to state the categories of schools they were teaching and Figure 4.7 presents the findings.

Figure 4.7: Preschool Categories and their Children Population

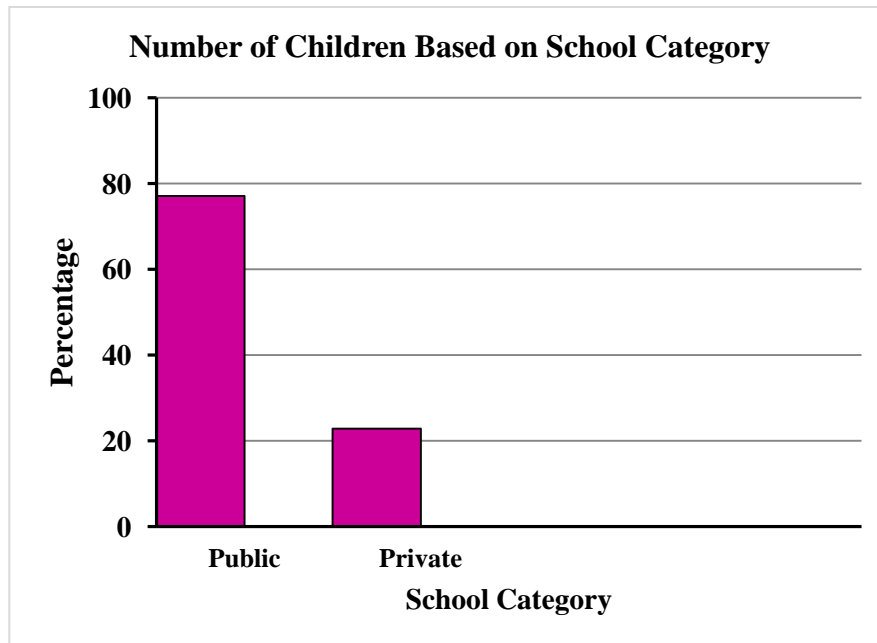


Figure 4.7 show that more public preschool (77.1%) was visited than private (22.9%) in this study. This implies that there are more pre-schoolers in public institutions than in private.

4.3 Availability of Play Materials and Children Engagement in Outdoor Play

The first objective of the study was to find out how availability of play materials influenced preschool children’s engagement in outdoor play. To achieve this objective, the study focused on (i) adequacy of play materials in their preschool, (ii) sources of play materials and (iii) Availability of play materials.

4.3.1 Adequacy of Play Materials for Children

Preschool teachers and head teachers were asked to indicate whether there were enough play materials in their schools. Table 4.1 shows the results of their responses.

Table 4.1: Preschool Teachers and Head Teachers Responses on Adequacy of Play Materials

Adequacy of Play Materials				
	Yes		No	
	F	%	F	%
Preschool Teachers	26	44.1	9	15.3
Head Teachers	18	30.5	6	10.1
Total	44	74.6	15	25.4

As revealed in table 4.1, a higher number of teachers (74.6%) indicated that there were adequate play materials in their schools while (25.4%) of sampled teachers had the opinion that the available play materials were insufficient. On the same vein, Elis (2000) stresses that children need to be provided with variety and plenty of play objects. Allowing children to access multiple play materials enable them to engage in more meaningful outdoor play activities.

This result contradicted the report of (Tarimo, 2013) on use of play as a teaching strategy which revealed that most preschools lack enough play materials to engage children in meaningful play activities. In addition, the results of this study agrees with those of (Ochanda, 2015) who established that many preschool in her sample had adequate play materials. From Ochanda’s study, it was concluded that children from preschools with plenty of play equipment shows a higher interest of participating in outdoor play activities.

4.3.2 Sources of Preschool Play Materials

The study sought to find out the sources of outdoor play materials by the teachers and head teachers in various preschools and the respondents were allowed to give multiple responses. Table 4.2 gives a summary of the results.

Table 4.2: Preschool Teachers and Head Teacher's Responses on Sources of Play Materials

	Sources of Play Materials	F	%
Head Teachers	Buying from shops	24	100%
	Locally made by parents	8	33.3%
	Donations	4	16.7%
	Locally made by teachers	12	50%
Preschool Teachers	Buying from shops	35	100%
	Locally made by parents	2	5.7%
	Donations	11	31.4%
	Locally made by teachers	16	45.7%

As shown in Table 4.2, the respondents (both teachers and head teachers 100%) reported that they purchased the play materials from shops. Both head teachers and teachers agreed that they sourced play materials by locally making them; this was presented by 50% and 45.7% responses of Head teachers and teachers respectively. Data also established that a few preschools get play materials from parents as well as donors. A large proportion of head teachers and teachers in the sample indicated that preschool teachers play a significant role in making play materials for children. This result implies that preschool teachers understand the important of providing play materials to young learners.

4.3.3 Availability of Play Materials in the Preschools

After determining the sources of preschool play materials, the study further investigated the extent of availability of materials in preschools. Preschool teachers were given a checklist to indicate the available and non-available play materials in their schools. Table 4.3 below presents the summary of the findings.

Table 4.3: Preschool Teacher's on the Availability of Outdoor Play Materials

Play Material	Availability of Play Materials				
	Available		Not Available		Totals
	F	%	F	%	
Bean bags	34	97.1	1	2.9	35
Balls	35	100	0	0	35
Swings	12	34.3	23	65.7	35
Hoops	8	22.9	27	77.1	35
Slides	10	28.6	25	71.4	35
Sea saw	4	11.4	31	88.6	35
Ropes	30	85.7	5	14.3	35
Tyres	26	74.3	9	25.7	35

As shown in Table 4.3, all preschools had balls (100%). The study established that only a few preschools had swings, hoops, see-saws and slides. Nevertheless, the analysis indicated that balls and bean bags are the most used play materials in preschools.

These findings were in line with (Ochanda, 2015) who carried out a study in Suba East, Migori County, to investigate the impact of play equipment on preschool children participation in outdoor play activities. She found that the most common play materials in her sampled preschools are balls, swings, slides, ropes and tires. According to Ochanda's

study, the reason why most school have these types of equipment is that more pre-schoolers often prefer to use them compared to other kinds of play materials. In this study, it was observed that most of the sampled preschools had similar play materials. It can be therefore deduced that these materials are cheap to install and may be used for various purposes.

The findings of this study were also similar to those of (Rajni , Sarika , & Anita , 2005). These scholars conducted a study to assess the play patterns of children in the preschool setting in India. In their study, it was found that almost all sample schools had swings, ropes, balls, tricycles, swings, climbing frames, balancing boards, and planks. In addition, similar play objects were revealed in a recent study carried out in Kitui County to investigate the correlation between play and socio-emotional development of preschool children. In this study, swings, balls, ropes and bean bags emerged as the major play materials used by children (Wathu, 2016).

The study hypothesised that there is a relationship between availability of play materials and preschool children's engagement in outdoor play in Kwale County. The availability of play materials was categorised into (available and non-available) while engagement in outdoor play was categorized into (Engaged and not engaged). To establish the relationship between availability of play materials and preschool children engagement in outdoor play, a cross-tabulation between the two variables was done. Table 4.4 presents the findings.

Table 4.4: Cross Tabulation of Availability of Play Materials and Children Engagement in Outdoor Play

Preschool Teachers' Responses		Engagement in Outdoor Play		Total
		Engaged	Not Engaged	
Availability	Count	30	0	30
	% within Availability of play materials in school	100%	0%	100.0%
	% of Total	85.7%	0%	85.7%
Non-Availability	Count	01	4	05
	% within Availability of play materials in school	88.6%	11.4%	100.0%
	% of Total	2.85%	11.4%	14.3%
Total	Count	31	04	35
	% within Availability of play materials in school	88.6%	11.4%	100.0%
	% of Total	88.6%	11.4%	100.0%

As shown in Table 4.4, 100% availability of outdoor play materials registered 85.7% engagement of outdoor games by preschool children. On the other hand, 100% non-availability of play materials registered 14.3% of preschool children engagement in outdoor games. This therefore confirms that there was a correlation between availability of play materials and engagement in play activities.

The analysis above confirms the findings of a study done in India regarding play pattern in preschool setting (Rajni , Sarika , & Anita , 2005). As per the results of this study, all schools provide a variety outdoor play equipment to their children. Most schools had equipment for cycling, jumping, kicking and climbing. When children are given multiple play materials, they begin to shift from one play activity to another. The assertions of (Rajni , Sarika , & Anita , 2005) also agrees with those of (Kaul, 1993) who also found

that many preschool children show more interest in outdoor play activities and modify their play behaviours according to the available play materials.

To establish the statistical significance of the above finding, Chi-Square test was carried to establish if there was a relationship between the two categorical variables as it was hypothesised. Table 4.5 presents the findings.

Table 4.5: Chi-Square Test Results for Relationship between Availability of Play Materials and Engagement in Outdoor Play

Chi Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.5(a)	2	.009
Likelihood Ratio	35.051	2	.009
Linear-by-Linear Association	.131	1	.077
N of Valid Cases	35		

As shown in Table 4.5, the Pearson Chi-Square value was 31.5 and p value of 0.009 which reveals that there was statistically significant association between availability of play materials and engagement in outdoor games by preschool children. This is because the p value of 0.009 was below the 0.05 alpha value for the result to have statistical significance. These findings were in line with (Wanjiku, 2016) research study which established that majority of ECD Centres in Ng’enda zone, Kiambu County had necessary play materials such as small balls, balancing beams and ropes. These results imply that some play materials are expensive (such as swings and slides) and most of the preschools only purchase the materials they can afford. Besides, the researcher observed that some schools had swings and slides but these structured facilities were in poor condition. Different scholars such as (Elis, 2000) argue that with plenty of play materials

in the preschool environment, children can participate in a variety of outdoor games. This means that ECD Centres which did not have an array of play materials were limiting their pre-schoolers from engaging in their favourite play activities.

The findings concur with the results of (Ochanda, 2015) who found that preschools with plenty of play materials recorded a higher participation in outdoor play activities. This implied that children play behaviours are greatly influenced by the presence of play objects. Likewise, studies done in developed countries by some scholars (Hartle, 1996; Calodera, 1986) show that children tend to change their play habits depending on the kind of play objects available. These studies also established that children engage more often in active games that involves physical skills when exposed to play equipment. In this case, the hypothesis stating that there was a relationship between availability of play materials and preschool children engagement in outdoor play in Kwale County (H_1) was accepted.

4.4 Time Allocation and Children Engagement in Outdoor Play

The second objective was to assess how time allocation for outdoor play determines preschool children's engagement in outdoor play. While play equipment are the foundation of preschool children outdoor play activities, the amount of time for play (Cincinnati Children's Hospital Medical Center, 2015) affect their interest to participate in variety of games, as well. To investigate the playtime in preschools of Kwale County, teachers were asked about outdoor time according to the school timetable as well as other time scheduled for outdoor play in their schools.

4.4.1 Amount of Time for Play as Per the Preschool Timetable

The study sought to find out the exact duration of time teachers bring children out of classroom to play. Table 4.6 display their responses.

Table 4.6: Number of Minutes Children Spent during play as per School Timetable

Amount of Minutes Spent by Children during Outdoor Play				
	Preschool Teachers		Head Teachers	
Time Allocated	F	%	F	%
20 minutes	6	17.1	4	16.7
30 minutes	24	68.6	17	70.8
40 minutes	4	11.4	2	8.3
1 hour	1	2.9	1	4.2
Total	35	100	24	100

The analysis in Table 4.6 shows that according to the school timetable most schools had set aside thirty minutes for outdoor play activities. Findings also established that some teachers took their children out of classrooms for outdoor activities for 20 minutes and 40 minutes while only one school in the sample had set aside one hour for play activities. The researcher also observed that many schools had indicated between 30 and 40 minutes of play in their class timetable. These findings concurred with the recommendation of (KICD, 2008) which states that outdoor play activities should be carried out within 30 minutes at the preschool level. These results, therefore, imply that children had enough opportunity to participate in outdoor activities in most of the sampled preschools.

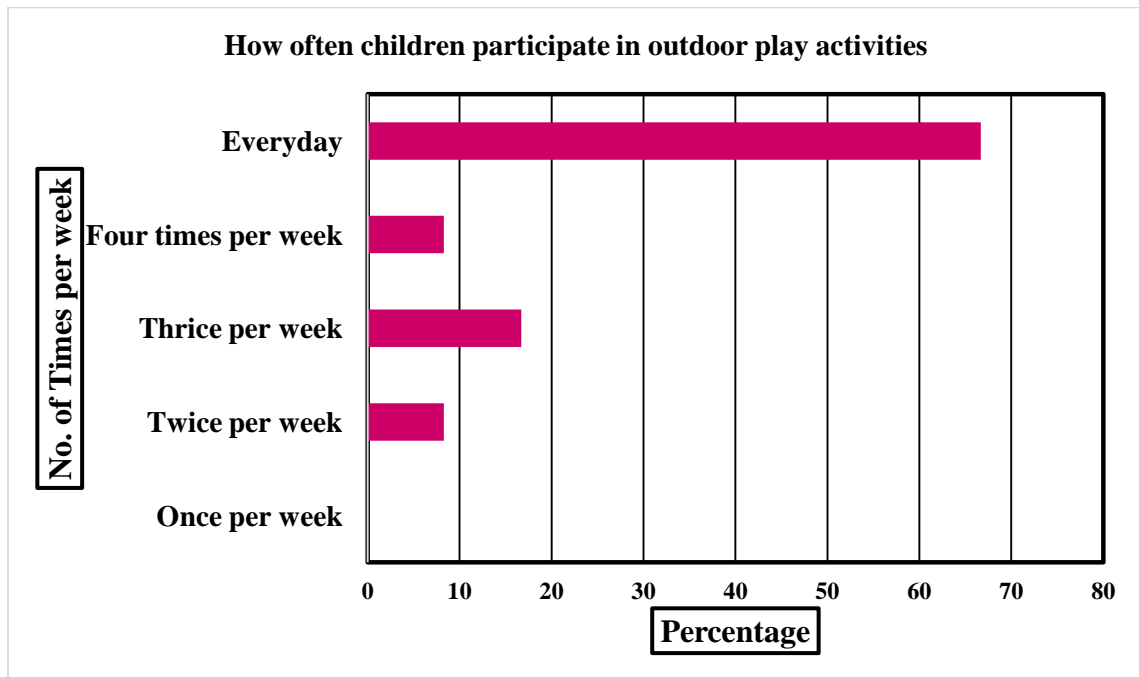
These results diverges with reports of (Rajni , Sarika , & Anita , 2005) who established that some preschools allotted two hours while others conduct their outdoor activities for an hour every day. However, the findings concur (Mahindu, 2011) sentiments that most

of preschools in Kenya have set aside between 30 and 40 minutes for outdoor play activities.

4.4.2 Frequency of Children Participation in Outdoor Play

The study also sought to determine how often teachers took their children out of classrooms to participate in outdoor activities. Head teachers were asked to indicate the number of times children are taken out for outdoors in their schools. Their responses were analysed in the figure 4.8.

Figure 4.8: Head Teachers Views on Frequency of Children Participation in Outdoor Activities per Week



As indicated in figure 4.8, most of sampled head teachers reported that children in their preschools are engaged in play activities on a daily basis. However, there are a few teachers who indicated that less than four times per week. Data also revealed that no school reported non engagement of their children in outdoor play. It means most teachers

recognise outdoor play activities as part and parcel of preschool curriculum and the concept of children's right to play.

Surprisingly, the results in Fig.4.8 were contrary to the findings of (Okoruwa, 2017) who established that preschool children spend more time in classrooms and their outdoor play time is limited. As well, findings of this study established that all preschool teachers engage their children in outdoor play on a daily basis. This results, therefore, implied that teachers were aware of the importance of engaging children in outdoor play activities daily.

It is vital to provide children with enough time to play. As revealed by (Carsley, et al., 2017), most children in preschools and day care centres spent an average of 60 minutes in outdoor play every day. However, literature (LEGO Learning Institute, 2003) established that mothers in the USA, UK, Japan, France and Germany strongly believed that playtime provided to their children in schools is not enough. Regarding these arguments, the study sought to investigate teacher's opinions, views, and perceptions on the adequacy of allocated time for children's outdoor play activities.

4.4.3 Adequacy of Play Time

While analysis shows that schools have different length of time for outdoor play, the study intended to find out whether the allocated time was adequate. Teachers were asked to state whether the allocated time for play in their class timetable is adequate or inadequate. The results are as tabulated in the table 4.7 in the next page.

Table 4.7: Adequacy of children Time for play

Allocated Time	F	%	Enough or Not Enough	F	%
20 minutes	6	17.1	Enough	2	33.3
			Not enough	4	66.7
			Total	6	100
30 minutes	24	68.6	Enough	18	75
			Not enough	6	25
			Total	24	100
40 minutes	4	11.4	Enough	4	100
			Not enough	0	0
			Total	4	100
1 hour	1	2.9	Enough	1	100
			Not enough	0	0
			Total	1	100

Table 4.7 shows that majority of sampled teachers had the opinion that the time allocated for children outdoor play is enough. These results implied that most children had relatively enough time to participate in outdoor play activities. The results of these findings concurs with analysis of (Gryfe, 2005) who established that mothers in United States agree that nursery and elementary schools provide sufficient time for children free play activities. According to the analysis in table 4.7, the average amount of time children spent in outdoors in Kwale County is 38 minutes per day. These results contradicts the recommendation of GECEP of one hour playtime for preschool children (Pediatrics, Association, & Education, 2011).

While some sampled teachers agreed that the time allocated for outdoor play was enough and others disagreed, the study also analysed the key reasons why playtime was perceived enough or not enough. Their responses were analysed in Table 4.8.

Table 4.8: Teachers Opinions on whether Allocated time is enough or not

	F	%	Reason Why Allocated Time is Enough or Not
Enough	25	71.4	-It's a KICD requirement -Children get tired quickly -Need to focus on class work -Need to rest
Not enough	10	28.6	-Children naturally like to play -Get enough time to make noise -They continue to play even after break time
Total	35	100	

As shown in Table 4.8, a large proportion of teachers reported that time allocated is enough because (i) children do not need more time as they are still young and quickly get tired, (ii) there was need to focus on other classwork activities as parent's belief that their children should be able to read and do some simple arithmetic by the end of their 6th birthday, and (iii) uphold KICD recommendations that preschool children should engage in outdoor play activities for thirty minutes. Interestingly, there were a few numbers of sampled teachers who asserted that children naturally like to play and they need to be given more time to play. Besides, the researcher observed that even after the end of free play lesson, children were showing more interest to continue playing, but teachers were forced to stop them and instruct them to go back to the classroom. This implies that, despite the recommendation of KICD that outdoor lesson should take place within 30 minutes, there is a need for this time to be added or revised.

The study hypothesised that there was a relationship between time allocated for play and preschool children’s engagement in outdoor play in Kwale County. The time allocated for play was categorised into (adequate and not adequate) while engagement in outdoor play was categorised into (Engaged and not engaged). To establish the relationship between time allocation for play and preschool children engagement in outdoor games, a cross-tabulation between the two variables was done. Table 4.9 presents the findings.

Table 4.9: Cross Tabulation of Time Allocation for Play and Children Engagement in Outdoor Play

Preschool Teachers’ Responses		Engagement in Outdoor Play		Total
		Engaged	Not Engaged	
Adequate Time	Count	28	0	28
	% within Do you think time for play is enough	100%	0%	100.0%
	% of Total	80.0%	0%	80.0%
Non Adequate	Count	02	05	07
	% within Do you think time for play is enough	85.7%	14.3%	100.0%
	% of Total	5.71%	14.3%	20.0%
Total	Count	30	05	35
	% within Do you think time for play is enough	85.7%	14.3%	100.0%
	% of Total	85.7%	14.3%	100.0%

As shown in Table 4.9, for 100% adequacy of play time registered, there was 80.0% engagement of outdoor games by preschool children. On the other hand, for 100% non-adequacy of play time, study registered 20% engagement of children in outdoor games. This analysis confirms that there was a correlation between adequacy of play time and engagement in play activities.

To establish the statistical significance of the above finding, Chi-Square test was carried to find out if there was a relationship between the two categorical variables as was hypothesized. Table 4.10 presents the findings.

Table 4.10: Chi-Square Test Results for Relationship between Adequacy of Play Time Allocation and Engagement in Outdoor Play

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.5(a)	2	.006
Likelihood Ratio	25.05	2	.005
Linear-by-Linear Association	.120	1	.054
N of Valid Cases	35		

The Pearson Chi-Square value was 21.5 and p value of 0.006 which reveals that there was statistically significant association between adequacy of play time allocation and engagement in outdoor games by preschool children. This is because the p value of 0.006 was below the 0.05 alpha value for the result to have statistical significance. As a result, the hypothesis that there was a relationship between time allocation for play and engagement in outdoor games by preschool children was not by chance. For this reason, the hypothesis was not rejected.

4.5 Teachers' Involvement and Children Engagement in Outdoor Play

The third objective of the study sought to find out how teachers' involvement in play influences children's engagement in outdoor play. To achieve this, the researcher had created items for head teachers and preschool teachers regarding their roles and presence during children outdoor play activities.

4.5.1 Roles of Preschool Teachers during Children Outdoor Play

Teachers were asked to indicate their roles during children's outdoor play sessions. Figure 4.9 below presents a visual representation of teachers' responses on their roles during children outdoor play.

Figure 4.9: Roles of Preschool Teachers during Children Outdoor Play

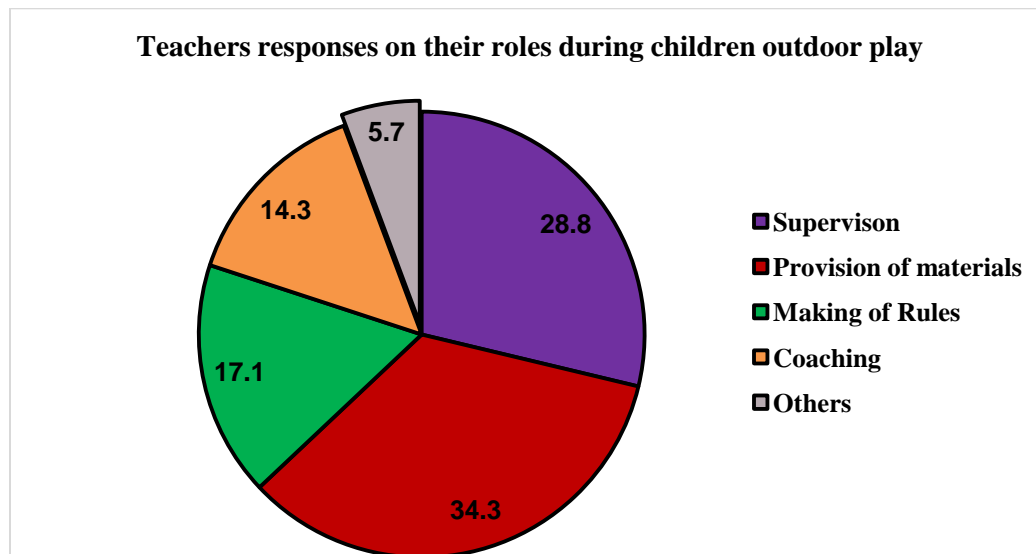


Figure 4.9 shows 34.3% provided materials for play, 28.8% played a supervisory role, and 17.1 mainly played the role of making rules for the game while 14.3% of the teachers were involved in coaching/training them on new games and 5.7% were involved in other responsibilities. From the findings, it is clear that majority of the sampled teachers provided play materials and train children on new games. The researcher, however, observed that teachers in some schools did not accompany their children to carry out outdoor activities. The study further revealed that some teachers spent their time doing other school duties, while others watched children as they play from a far distance. This implies that some preschool teachers were too busy with preparations of academic work and they perceive outdoor activities less important. This finding supports the assertion of

(Okoruwa, 2017) that many teachers have a lot of paperwork to do which inhibit them from bringing children out of the classroom for outdoor activities.

These results are similar to those of other studies carried out in developed countries (Smilansky, 1990; Yang, 2013) which also established teachers roles as planning, facilitating, mediating, supporting and monitoring children outdoor play activities. Though it was observed that not all the teachers in the sample involved directly or indirectly to children's play activities, majority of them were seen playing and providing play materials. The implication of this is that teachers may fail to involve themselves to children outdoor play due to the tight schedule; they have books to mark, charts to draw, and in some schools, teachers make play materials. From the study findings, it can be inferred that the primary role of teachers is to respond to the outdoor play needs of pre-schoolers. This converges the assertion of (New, 1992) that teachers has to be aware of children individual needs and should respond immediately to those needs.

4.5.2 Head Teachers Views on the Roles of Teachers during Children Outdoor Play

The researcher sought to establish head teacher's views on the role of teachers during children outdoor play and the head teachers were allowed to give multiple responses. The results were as presented in Table 4.11 in the next page.

Table 4.11: Head Teacher's Views on Roles of Preschool Teachers during Outdoor Play

Roles of Teachers	F	%
Prevent injuries and accidents	10	41.7
Supervise children	21	87.5
Settle disputes among children	14	58.3
Guide them on how to play	6	25
Punish the trouble makers	11	45.8
Provide play materials	18	75
Officiate the games	2	8.3
Make rules for the game	5	20.8

Table 4.11 shows that 87.5% of the head teachers played a supervisory role during children outdoor play time, 75.0% provided play materials, 58.3% were engaged in settling disputes that may arise during play interactions among children and punished troublemakers in case of disagreement. These findings are in line with (Frost, 2005) assertion that when teachers interact with children during outdoors, they can provide them with developmentally appropriate play materials, as well as supporting their thoughts and interests. Teachers should, therefore, involve themselves in children play and offer necessary help where possible.

The results in table 4.11 converge with report (Fleer, 2015) that educators involve themselves in children outdoor via: (i) supervising the children, (ii) providing play materials, and (iii) resolving disputes that might arise as children interact with one another. Nevertheless, it was observed that some teacher plays together with children while others officiate the games. Children play behaviours are not altered by teacher involvement unless the educator deliberately interfere with their games (Rajni , Sarika ,

& Anita , 2005). For this reason, the study went ahead to examine how presence of teachers influence the play behaviours of preschool children.

4.5.3 Impact of Teachers Presence during Children Outdoor Play

The study also sought to determine whether the teacher’s presence during children outdoor plays sessions interfere with their games. As such, preschool teachers were asked to indicate whether their presence interferes with children play or not. Figure 4.10 present their responses.

Figure 4.10: Teachers Response on Whether Their Presence Interferes with Children Play or Not

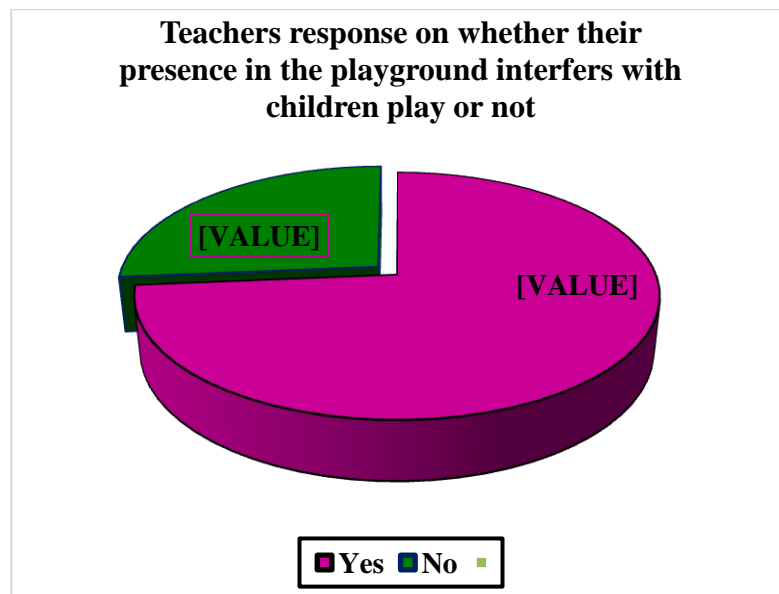


Figure 4.10 shows that a large proportion of sampled teachers (74.3%) agreed that the presence of teachers during children playtime interferes with their play activities while 26.6% reported that teacher’s presence during children play sessions did not have any impact on their play. These findings confirm other reports by scholars such as Christie and Wardle (1992) and Pellegrini (1984) who asserted that children need to be allowed to

play alone and with peers as teacher’s presence inhibit children dramatic play, their social interaction and their willingness to negotiate in case they have conflicts.

Teachers were asked to highlight some of the ways they can use to ensure that every child actively participates in outdoor play and were allowed to give multiple responses. Table 4.12 summarises their responses.

Table 4.12: Teachers Responses on Ways to Ensure Every Child Engage in Outdoor Play

How To Ensure That Children Engage In Outdoor Play	F	%
Give them plenty of developmentally appropriate play materials	28	80
Ensure that the playground is safe	30	85.7
Keep their diet in the right proportion	13	37.1
Praise & reward them regularly	17	48.6
Provide comfortable games kits	22	62.9

As per the analysis in Table 4.12, majority 85.7% of the teachers had ensured the safety of playground before engaging the children in play activities, 80.0% gave children adequate and plenty developmentally appropriate play materials and 62.9% provided comfortable games attires, 48.6% praised and rewarded children regularly to motivate them among other top approaches to ensure children participated in the outdoor play. This implies that teachers can positively bring a great impact on children’s outdoor games. These findings are in line with (Smilansky, 1990) whose report concluded that teacher involvement in children outdoor play could significantly stimulate and enrich children’s play activities.

The study hypothesised that teachers’ involvement play had a significant influence on preschool children’s engagement in outdoor play in Kwale County. Teachers’

involvement in play was categorised into (Involved and not Involved) while engagement in outdoor play was categorised into (Engaged and not engaged). To establish the relationship between teachers' involvement in play and preschool children engagement in outdoor games, a cross-tabulation between the two variables was done. See table 4.13.

Table 4.13: Cross tabulation of Teachers' Involvement in Play and Engagement of Outdoor Play

Preschool Teachers' Responses		Engagement in Outdoor Play		Total
		Engaged	Not Engaged	
Involved	Count	27	0	27
	% within Do you play with your pre-schoolers	100%	0%	100.0%
	% of Total	77.1%	0%	77.1%
Not Involved	Count	02	06	08
	% within Do you play with your pre-schoolers	82.3%	17.7%	100.0%
	% of Total	5.71%	17.7%	23.4%
Total	Count	29	06	35
	% within Do you play with your pre-schoolers	82.3%	17.7%	100.0%
	% of Total	82.3%	17.7%	100.0%

As shown in Table 4.13, for 100% involvement in outdoor play activities by the teachers, there was 77.1% engagement in outdoor games by preschool children. On the other hand, for 100% non-involvement in outdoor play activities by the preschool teachers, the study registered 23.4% engagement of children in outdoor games. This statistical data confirms that there was a correlation between teachers' involvement and engagement in play activities. The results implied that the more teachers participate in children outdoor play activities, the more children become interested in outdoor play. This findings

corroborates prior study done by (Waithaka, 2010) which established that children become more enthusiastic when playing together with their teachers. This assertion also converges those of (Rajni , Sarika , & Anita , 2005) who also found teachers presence lead to an increased physical activities of children.

To establish the statistical significance of the above finding, Chi-Square test was carried out to establish if there was a relationship between the two categorical variables as was hypothesised or it just occurred by chance. Table 4.11 presents the findings.

Table 4.14: Chi-Square Test Results for Relationship between Teachers’ Involvement in Play and Engagement in Outdoor Play by Preschool Children

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.3(a)	2	.026
Likelihood Ratio	20.01	2	.035
Linear-by-Linear Association	.105	1	.083
N of Valid Cases	35		

The Pearson Chi-Square value was 15.3 and p value of 0.026 which reveals that there was statistically significant association between teachers’ involvement play activities and engagement in outdoor games by preschool children. This is because the p value of 0.026 was below the 0.05 alpha value for the result to have statistical significance. This findings support the results of (Wangari, 2011) who established that teachers involvement stimulates children interest to take part in play activities. While teachers involve themselves in children’s outdoor play through different ways, their contributions and presence greatly hone children physical activities (Fleer, 2015). In this regard, the hypothesis (H₁): Teachers’ involvement in play has a significant influence preschool children engagement in outdoor play in Kwale County, Kenya was accepted.

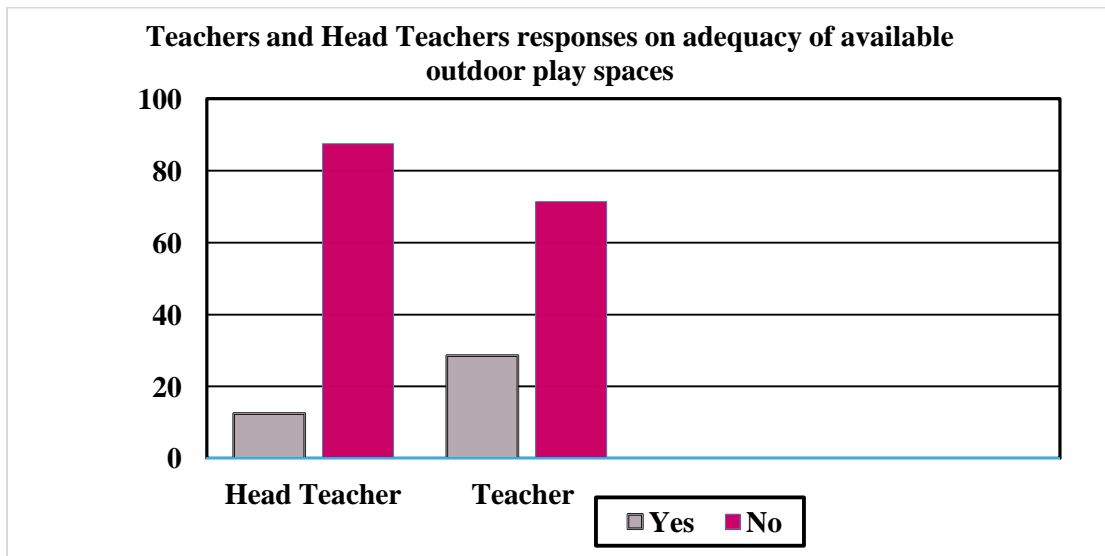
4.6 Nature of Outdoor Playgrounds and Children Engagement in Outdoor Play

Ultimately, study attempted to determine the extent to which the nature of outdoor playgrounds influences preschool children’s engagement in the outdoor play. To achieve this, the research had questionnaires to administer to both teachers and head teachers. The researcher aimed to gather information on available surfaces in school playgrounds to determine the safety, the capacity and whether the nature playground can encourage children to participate in the outdoor play.

4.7.1 Availability of Play Fields

The study sought to determine whether the accessible playground is enough or not. Both teachers and head teachers were asked about their views on the adequacy of available playfields. Figure 4.11 below presents their responses.

Figure 4.11: Teachers and Head Teachers Views on Availability of Play Field



Results in figure 4.11 revealed that the majority of sampled (71.4%) teachers and (87.5%) of head teachers viewed the available school playground as inadequate to accommodate the needs of all children. Also, the researcher observed that some preschools, particularly private preschool didn’t have playgrounds. This was because some of them were built in

residential houses which had limited free space for outdoor activities. These findings are contrary to recommendations of the (Ministry of Education, 2006) in the Early Childhood Development Standard Guidelines, which requires all individuals, NGO's and private institutions to ensure that they have a standard play area for children before registering their ECD centres. School administrators should, therefore, ensure that there are complementary ways to deal with the inadequacy of play spaces such as hiring public stadiums as well as bringing children out of classrooms for outdoors in turns.

4.6.2 Surfaces of Preschool Play Areas

The study sought to find out the types of surfaces in preschool playgrounds. Teachers were asked to highlight the type of surfaces available in their school play areas. Table 4.15 presents the summary of their responses

Table 4.15: Teachers Responses on Available Playground Surfaces

Type of Surface	Available or Not available	F	%
Cemented courts	Available	6	17.1
	Not available	29	82.9
	Total	35	100
Grassy fields	Available	33	94.3
	Not available	2	5.7
	Total	35	100
Sandy areas	Available	28	80
	Not available	7	20
	Total	35	100
Carpeted areas	Available	0	0
	Not available	35	100
	Total	35	100
Water areas	Available	2	5.7
	Not available	33	94.3
	Total	35	100

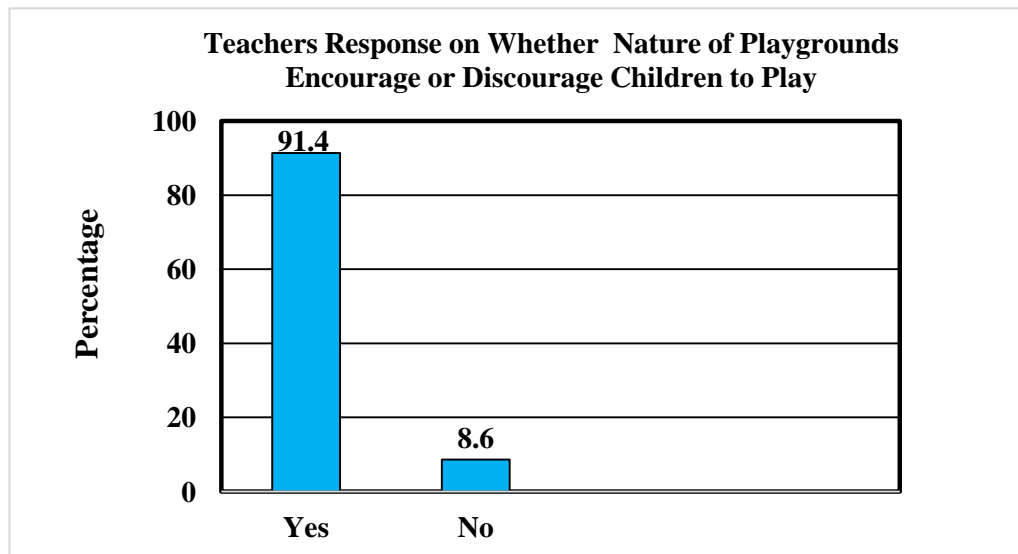
Data in table 4.15 revealed that out of 35 preschools, only one had a carpeted play area, but the majority of schools had grassy and sandy areas. This implies that some surfaces

are expensive to install and maintain thus most school cannot afford to put on these classy play surfaces. The analysis in table 4.15 also shows that cemented courts are rare in most preschool. This could be perhaps because they are hard and can lead to severe body injuries in case children had accidents during outdoor play. From observations, some schools had water areas, but the waters were not clean for domestic use. Some had stagnant water which had foul smell and risky to the lives of the children.

4.6.3 Nature of Playground and Children Engagement in Outdoor Play

Teachers were required to mark with a tick (✓) whether the nature playground encouraged or discouraged children to play. They were to respond with a 'yes' if the playground encouraged children to play and with a 'no' if it did not stimulate children to play. Distribution of their responses is depicted in figure 4.12 below.

Figure 4.12: Teachers Responses on Whether Nature of Playgrounds Encourage or Discourage Children to Play



Results in figure 4.12 show that majority of sampled teachers (91.4%) agreed that playgrounds are very important in boosting the interesting of children to play while a sample portion of sampled preschool teachers (8.6%) had the opinion that play area

doesn't encourage children to play. This finding corroborates with suggestions of experimental study done in Norway by (Fjørtoft, 2001) which asserts that playground, especially that with natural elements offer multiple choices of play to children; therefore it encourages children to participate in variety of games.

The study hypothesized that there was a relationship between nature of outdoor playground and preschool children's engagement in outdoor play in Kwale County. Teachers were to answer in (Yes or No) whether nature of playground encouraged the children to participate in play while engagement in outdoor play was categorized into (Engaged and not engaged). To establish the relationship between the two variables, a cross-tabulation was done. Table 4.16 presents the findings.

Table 4.16: Cross Tabulation of Nature of Outdoor Playground and Children Engagement in Outdoor Play

Preschool Teachers Responses		Engagement in Outdoor Play		Total
		Engaged	Not Engaged	
Yes	Count	33	0	33
	% within Do you think nature of playground encourage children to participate in play	100%	0%	100.0%
	% of Total	94.3%	0%	94.3%
No	Count	02	00	02
	% within Do you think nature of playground encourage children to participate in play.	100%	0%	100.0%
	% of Total	5.71%	0%	5.7%
Total	Count	35	00	35
	% within Do you think nature of playground encourage children to participate in play.	82.3%	17.7%	100.0%
	% of Total	82.3%	17.7%	100.0%

As shown in Table 4.16, for 100% of the agreed that if the nature of playground is good in terms of surface and safety, 94.3% of children will be engaged in outdoor games. On

the other hand, for 100% also agreed that if the nature of playground is not good, only 5.7% of children will be engaged in outdoor games. This confirms that there was a correlation between nature of playground and preschool children's engagement in the outdoor play activities.

To establish the statistical significance of the above finding, Chi-Square test was carried to establish if there was a relationship between the two categorical variables as was hypothesised. Table 4.17 presents the findings.

Table 4.17: Chi-Square Test Results for Relationship between Nature of Outdoor Playground and Engagement in Outdoor Games by Preschool Children

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.10(a)	2	.000
Likelihood Ratio	48.01	2	.002
Linear-by-Linear Association	.118	1	.001
N of Valid Cases	35		

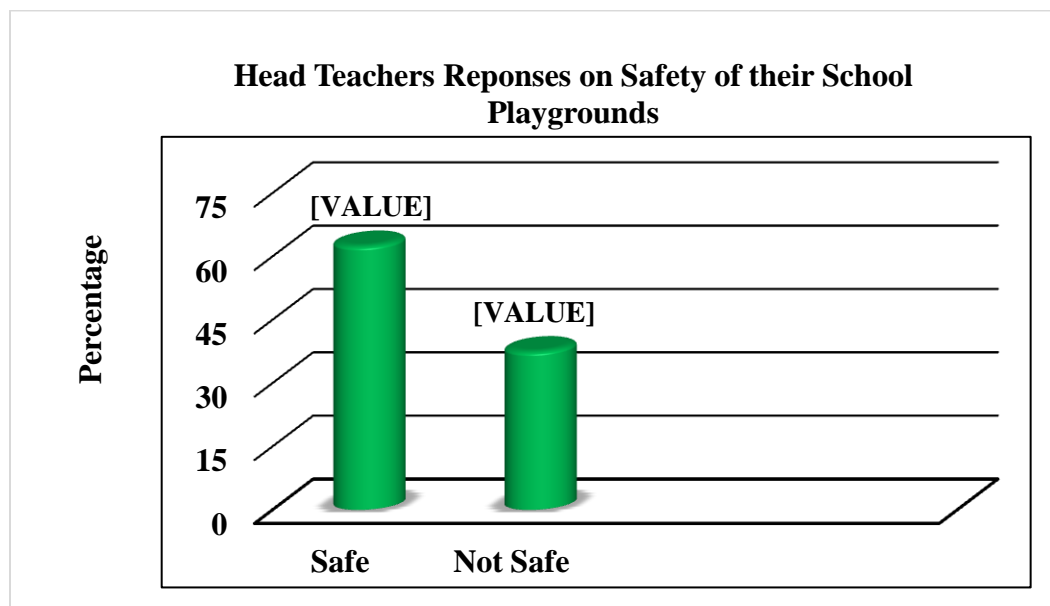
From the 4.17, it is notable that the Pearson Chi-Square value was 55.1 and p value of 0.0001 which means that there was a strong statistical correlation between nature of playground and engagement in outdoor play activities by preschool children. This is because the p value of 0.0001 was far below the 0.05 alpha value for the result to have statistical significance. This finding somehow converges literature (Little & Eager, 2010; Veitch, Salmon, & Ball, 2008) that the features of play spaces has a positive impact on children's participation in outdoor play. These results were also similar to reports of (Hyndman, 2012; Heusser, Adelson, & Ross, 1986) that children become interested to play when exposed to playgrounds with diverse elements.

The results of statistical analysis in table 4.17 support findings of (Jack & Christopher , 2013) that children like to play in environment with multiple elements such as soft surfaces, fenced playgrounds, and play spaces with plenty of resources. It is safe to conclude that a fully equipped playground has a profound impact on children play behaviours. This means that the more the play environment have a variety of elements, the higher the likelihood of children engagement in games (NICE, 2010). For this matter, the alternative hypothesis, H₁ there was a relationship between nature of playground and preschool children engagement in outdoor play in Kwale County, Kenya was accepted.

4.6.5 Safety of Preschool Playgrounds

The study further asked head teachers to state whether their school playgrounds are safe for children use or not. Figure 4.12 presents the analysis of their responses.

Figure 4.13: Head Teachers Responses on Safety of Preschool Playgrounds



As reflected in figure 4.13, a large proportion of sampled head teachers 62.5% reported that their school playgrounds are safe for children while a relatively significant number of

head teachers 37.5% stated that their school playgrounds are not safe. This implies that most preschool children participate in play in well-secured play spaces.

4.6.5 Ways to Ensure Safety of Preschool Playgrounds

Teachers and head teachers were finally asked to state ways in which they can ensure playgrounds are safe for children use. Table 4.18 shows the results of their responses.

Table 4.18: Teachers and Head Teachers’ Responses on Ensuring Playground Safety

How To Ensure That Preschool Playgrounds Are Safe For Our Children					
Head teachers	F	%	Preschool teachers	F	%
Remove debris	24	100	Fencing the playground	26	74.3
Level the field to be flat	22	91.7	Regular inspection	18	51.4
Fencing the playgrounds to keep unwanted guest at bay	20	83.3	Servicing the structured equipment regularly	18	51.4
Don’t leave young children to play with older ones	4	16.7	Making sure equipment are firm to the ground	30	85.7
Good playground surface that can absorb a child’s fall	9	37.5	Remove garbage and animal faeces around the main play areas	32	91.4

As presented in Table 4.18, both teachers and head teachers had some similar opinion on ways to keeping playground safety for children. The table clearly shows that fencing, removing garbage and debris are primary ways to ensure play areas are safe for children. Interestingly, other ways to ensure safety that were reported by the respondents were inspecting the equipment regularly, separating young and older children, making sure the playground is flat, ensuring the surface can absorb child’s fall and making sure that structure equipment are firm to the ground. These findings imply that both teachers and head teachers had adequate knowledge on how to ensure their pre-schoolers are safe as they engage in outdoor play.

The findings in table 4.18 corroborates assertion of (Heather , Donna , & Susan , 2014) that teachers should prepare outdoor space to ensure that it is safe and guide children to play safely. As teachers supervise children during outdoor play sessions, they should always be watchful, alert and direct children from unsafe play areas.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary, conclusions and recommendations of the study. It also gives suggestions for further research. The study was based on the following objectives:

- (i) To find out how availability of play materials influences preschool children's engagement in outdoor play in Kwale County.
- (ii) To assess how time allocation for play determines preschool children's participation in outdoor play in Kwale County.
- (iii) To find out how teacher's involvement in play influences preschool children's engagement in outdoor play in Kwale County.
- (iv) To determine the extent to which the nature of outdoor playgrounds influences preschool children's engagement in outdoor play in Kwale County.

5.2 Summary of the Findings

The primary purpose of this study was to explore determinants of children's engagement in outdoor play in the ECD Centres in Kwale County, Kenya. To achieve this objective, the study focused on both material and teacher factors. A sample of thirty-five preschool teachers and twenty-four head teachers was used. The responses of these sampled participants were analysed and the following were the main findings:

The study established that balls and bean bags were available in almost all the schools. Other materials and equipment that the researcher observed in some preschools were swings and slides; however most of the schools did not have them. The study also found that a high proportion of sampled schools buy materials from shops while a small number

reported that they rely on teachers to make play materials. Besides, the study found that available play materials in Kwale ECD Centres are not enough for the needs of the children. Most importantly, the study revealed that there is a correlation between the available play materials and children engagement in outdoor play.

The study established that apart from break and lunchtime, every school had set aside some minutes for outdoor activities. It was established that most schools had scheduled between 30 and 40 minutes for outdoor play in their timetables. Majority of teachers reported that the time given for outdoor activities was enough, however; the researcher observed that children still showed interest to continue to play even after the outdoor lesson was over. Analysis of the study found that there is a relationship between time allocated for play and children participation in outdoor play activities.

Teachers in different preschools involved themselves in children play activities in different ways. Some teachers reported that their roles are provide play materials, supervise the children and punish the troublemakers while others said that they teach children new games, solve conflicts among players, help children to make rules and officiate the games. The researcher observed that not all teachers who involved themselves in children outdoor activities and some of them were seen very busy with paperwork as children continued to play. The study also established that teacher's involvement in children play activities influences children engagement in outdoor play.

Regarding playground surfaces, the study found that the most common play surface was grass and sand. The study also established that out of twenty schools visited, only one had some carpeted court. Interestingly, the researcher observed that some schools had

water area; however, the waters were not clean for child's use. The study also established that there are some ways teachers could ensure playground safety such as fencing, regular inspection, removal of debris and garbage, making sure that structured materials are firm in the ground and separating young children from older children. The study found that the nature of playground is a determinant of children engagement in outdoor play.

5.3 Conclusions

In accordance with the study results, it can be concluded that balls and bean bags are the commonly used play materials in almost all the preschool. This is because they are cheap to buy, easy to store and cheap to repair. It was clear that some play materials were not available in most school because they are expensive. These materials include sea-saws, slides and swings.

It was also concluded that teachers' roles are critical in a child's play life. The school might have a few play materials, but through the efforts, determination and creativity of teachers, children can engage in outdoor play.

Although a large proportion of teachers reported that playtime for children is enough, the study supported the idea of adding more time for outdoor play, and probably forty minutes seemed ideal. This is because the researcher observed that children in most schools showed interest to continue playing even after the outdoor lesson was over.

Ultimately, the study concluded that the majority of preschools in Kwale County had grassy and sandy playgrounds. These two types of outdoor play surfaces are cheap to install and maintained, and any school can afford to set up such kinds of play spaces.

5.4 Recommendations

The following were the recommendations of the study:

- (i) The County Government of Kwale should ensure that all operational schools whether private or public have a valid registration certificate and that the school have the necessary playground as recommended by the Ministry of Education.
- (ii) KICD should increase the time for outdoor lessons from 30 to 40 minutes and ensure that every school adheres to these changes.
- (iii) Teachers and head teachers should invent ways to acquire more play materials for children such as hiring from neighbourhood schools, locally making them, and improvisation.
- (iv) School managers should ensure that every day pre-schoolers are brought out of classrooms for outdoor play activities in order to help them develop holistically, and advice teachers to involve themselves in children play in various ways.
- (v) School managers should also make sure that playgrounds are fenced and debris are cleared out of the play area. The playground equipment must be inspected termly by a professional to ascertain whether they are in good condition or not.

5.5 Areas for Further Research

- (i) Though the study attempted to explore school determinants of children engagement in outdoor play in Kwale County, it means that the study findings cannot be generalised to reflect the situation of the country. Therefore, it would be necessary to conduct the same study in other regions of the country to find out whether similar results would be obtained.

(ii) It would also be essential to conduct a study on school determinants of physically challenged children engagement in outdoor play. These children also have the right to play despite their condition and their outdoor activities should be prioritised to help them enjoy school life. Is it possible that different factors determine the participation of these children in outdoor play, what are the roles of their teacher regarding outdoor play, do they have special play materials, or they use the same equipment just like other children?

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APPENDICES

APPENDIX I: Questionnaire for Head Teachers

This questionnaire is designed to gather information on school determinants of preschool children's engagement in play. Your responses will only be used for academic purpose and will be kept confidential. Kindly read and respond to each question honestly by using a tick (✓) or writing down your opinion where possible.

Section A: Demographic data

In this section, you are requested to use a tick (✓)

1. Type of your school. Public () Private ()
2. Your gender. Male () Female ()
3. Your experience as a head teacher
Less than 5 year () 6-10 years () 11-15 years () 16-20 years ()
Over 20 years ()
4. Your professional qualification
None () ECD Certificate ()
Diploma in ECD () Bachelor of Education in ECE ()
Master in Education in ECE () Others.....

Section B: School determinants of preschool participation in outdoor play

5. Does this school have adequate play materials?
Yes () No ()
6. What is the source of play materials used by preschool children?
.....
.....
.....

Play materials	Available	Not available
Bean bags		
Balls		
Swings		
Hoops		
Swings		
Slides		
Seesaws		

State others.....

11. Are the play materials available in your school enough?

Section C: Allocated time for outdoor play

12. (a) Is outdoor play scheduled daily in your class timetable? Yes [] No []

(b) If No in 10 (a) above, give reason.....

13. How many minutes do children take in outdoor play according to the school timetable?

14. (a) Do you think the number of minutes set aside for outdoor play is adequate?

Yes [] No []

(b) Give reason for your answer in 14 (a) above

Section D: Teachers participation in children outdoor play

15. Do you play together with your pre-schoolers? Yes [] No []

16. What are your roles in children outdoor play?

17. Do you think your presence in children play interfere with their play?

Yes [] No []

18. What can you do to ensure that children engage in outdoor play?

Section E: Nature of outdoor playground

19. Is your school playground enough to accommodate all the children play activities?

20. Use table below to tick the available surfaces in your playground.

Type of surface	Available	Not available
Cemented surface		
Grassy area		
Sandy area		
Carpeted area		

Others specify.....

21. Do you think the nature of playground encourage children to participate in play?

Yes [] No []

22. How can we ensure our playgrounds are safe for children's play activities?

Thank you for participating

APPENDIX III: Observation Checklist

Play materials			
	Available	Not available	Remarks
Balls			
Slides			
Swings			
Bean bags			
See saws			
Hoops			
Tires			
Others.....			
Nature of playgrounds			
	Available	Not available	Remarks
Cemented area			
Grassy area			
Sandy area			
Digging area			
Carpeted area			
Others			
Teachers role during children's outdoor play			
	Yes	No	
Provision of play materials			
Guiding the children on the type of games			
Giving children instructions			
Coaching children on how to play			
Watching children while playing			
Solving disagreements between children			
Acting as a referee			
Managing play time			
Other roles.....			
Allocated time for outdoor play			
	Yes	No	
20 minutes			
30 minutes			
40 minutes			
Others			

APPENDIX IV: Letter from the Institution



KENYATTA UNIVERSITY
GRADUATE SCHOOL

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

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 17th September, 2018

TO: Elisha Kithungu Philip
C/o Early Childhood Studies Dept.

REF: E55/OL/MSA/27042/2015

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 22nd August, 2018 entitled "Determinants of Children's Engagement in Outdoor Play: Case of Early Childhood Centres in Kwale 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. Esther Waithaka
C/o Department of Early Childhood Studies
Kenyatta University

EM/Inn

Appendix V: Authority to Carry Out Research



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/26117/25834**

Date: **13th October, 2018**

Elisha Kithungu Philip
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Determinants of children's engagement in outdoor play: Case of Early Childhood Centres in Kwale County, Kenya*" I am pleased to inform you that you have been authorized to undertake research in **Kwale County** for the period ending **12th October, 2019**.

You are advised to report to **the County Commissioner and the County Director of Education, Kwale 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.


BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

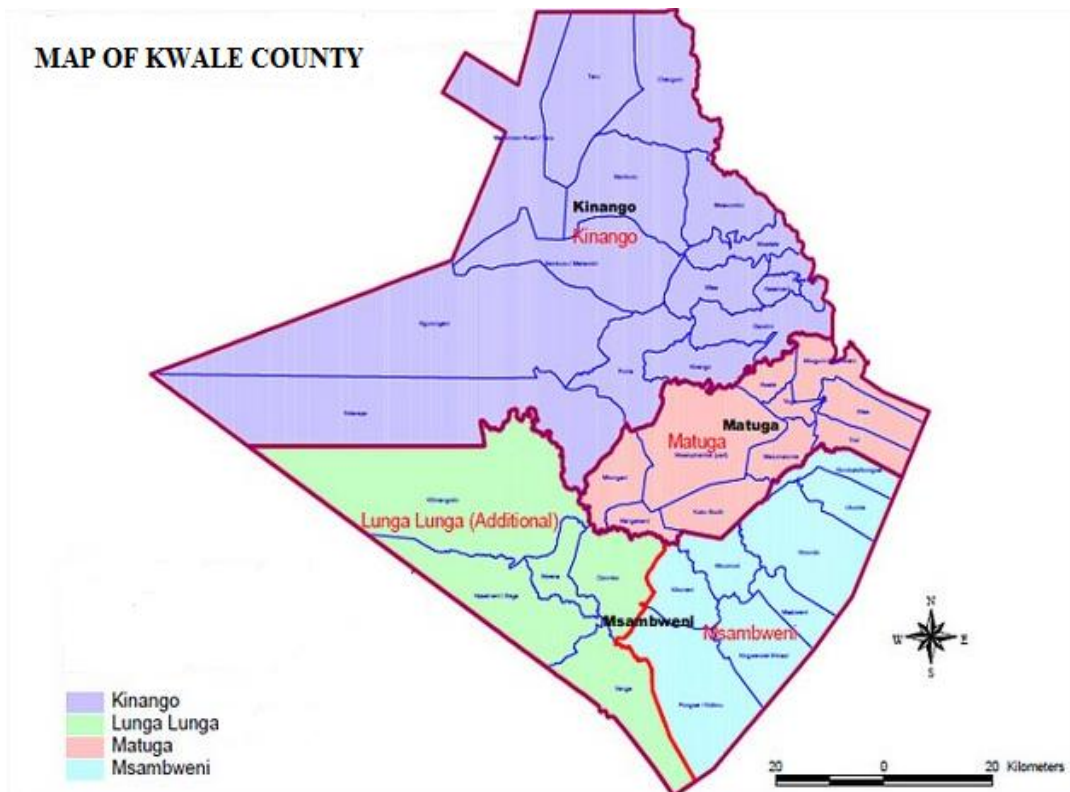
Copy to:

The County Commissioner
Kwale County.

The County Director of Education
Kwale County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified

APPENDIX VII: Map of Kwale County, Kenya



Source: First County Integrated Development Plan of 2013