# AN ASSESSMENT OF OUTDOOR PLAY ENVIRONMENT FOR TEACHING AND LEARNING IN PRIVATE PRE-PRIMARY SCHOOLS IN UASIN GISHU COUNTY, KENYA

**BY**

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## DECLARATION

**Declaration by the Candidate**

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## DEDICATION

This thesis is dedicated to my parents, Mr. Benjamin Sang and Mrs. Jane Sang, for their financial, moral, and supportive assistance; it is also dedicated to my husband, Willy Toroitich; daughter, Staicy Cheruto; and Seth Kiptoo.

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# ABSTRACT

In early childhood education, play is an important ingredient as it promotes learners' holistic development. However, despite the critical role of play environments in promoting children's participation in outdoor play activities, the availability, adequacy, and utilization of outdoor play environments for teaching and learning in private pre-primary schools have been lacking. The purpose of this study was to determine the availability, adequacy, and utilization of outdoor play environments for teaching and learning in private pre-primary schools in Uasin-Gishu County. The research objectives were to find out: the availability and adequacy of outdoor play space; the utilization of outdoor play space; the availability and adequacy of outdoor play materials; and the utilization of outdoor play materials for teaching and learning in private pre-primary schools in Uasin-Gishu County. Findings from this study are beneficial to education policymakers, education consultants, researchers, and school directors and administrators. The study embraced social learning theory by Albert Bandura. This theory emphasizes learning by interacting with others in a social context. A mixed-methods research approach and a descriptive survey research design were used in this study. The target population was head teachers and teachers in all private pre-primary schools in Uasin-Gishu County. The study sampled twelve private pre-primary schools from each of the six constituencies in Uasin-Gishu County using stratified and simple random sampling techniques to ensure representation. From the sampled schools, 24 teachers and 12 head teachers were sampled for the study using simple random sampling and purposive sampling techniques. Questionnaires were used to collect data from pre-primary teachers, while interview schedules were used for head teachers. An observation schedule was used to collect data on the availability and utilization of outdoor play environments for teaching and learning. Test-retest was used to determine reliability, while the content validity index was used to determine the validity of the instruments. A pilot study was also carried out to test the tools. Quantitative data was analyzed through descriptive statistics, while qualitative data was analyzed through thematic analysis. The findings were that the majority of the private pre-primary schools had an acceptable amount of play space. Grassy spaces and natural areas were available and highly utilized. Many schools had inadequate play equipment. Regular repair and replacement of worn-out play equipment was lacking. It was recommended that private pre-primary schools repair the play equipment more often. It was further recommended that the teachers improvise play equipment in cases where the school was unable to install or buy new equipment. Another recommendation was that preschool teachers should attend in-service courses on how to support play activities for learners.

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| | |
|---|---|
| **ACRWC:** | African Charter on the Rights and Welfare of the Child |
| **CRC:** | Convention on the Rights of the Child |
| **ECCDE:** | Early Childhood Care, Development and Education |
| **ECD:** | Early Childhood Development |
| **EFA:** | Education for All |
| **HPPS:** | Handbook of Public Playground Safety |
| **KIE:** | Kenya Institute of Education |
| **MDGS:** | Millennium Development Goals |
| **NACECE:** | National Center for Early Childhood Education |
| **NAEY:** | National Association for Education for young children |
| **NECD:** | National Early Childhood Development Policy Framework |
| **UNCRC:** | United Nations Convention on the rights of the child |
| **CBC:** | Competency Based Curriculum |

# CHAPTER ONE

# INTRODUCTION TO THE STUDY

## 1.0 Overview

This chapter looked at the availability and utilization of outdoor play environment for teaching and learning in private ECD schools in Uasin-Gishu County. The chapter outlined the background to the study, statement of the problem, objectives of the study, research questions, and significance of the study, scope of the study, limitations of the study, study assumptions, theoretical framework, and conceptual framework, definitions of operational terms and summary of the chapter.

## 1.1 Background to the Study

The child has the right to rest and leisure, to engage in play and participate in cultural and artistic activities (ACRWC Article 12). The right to relax and participate in recreational activities appropriate for their ages is an important aspect of a child's right to development. However, some of the reactions to the statement "children have a right to play" tell us about the attitude teachers have towards play. A teacher: "Right to play?" they play all the time anywhere. "They better get down to doing serious work". Only few months are left for them to join class one. No more play, no outdoor activities. They must concentrate on their studies and only studies. This view seems to contradict the African charters view on the need to respect and promote the right of the child to play (ACRWC Article 12, 1999). Early Childhood Development Education (ECDE) programmes play a crucial role in laying the foundation for further education and character formation of the children (Kusumandari, 2013; Alvi, Asif &

Reid, 2020; Hasanah & Deiniatur, 2020). They provide children with a fairer and better start in life (Muganga, 2013). Early Childhood Care Development and Education (ECCDE) seeks to develop the whole child (Nafungo, 2015).

Pre-school plays a central role in establishing quality development of an individual (Mwaura & Marfo 2009; Hakim, 2016). Outdoor environments landscaped with trees, shrubbery, and grass are important both as a trigger of young children's physical activity and automatic sun protective behaviour (Boldemann, Blennow, Dal, Mårtensson, Raustorp, Yuen & Wester, 2006; Boldemann, Dal, Mårtensson, Cosco, Moore, Bieber, & Söderström, 2011). Early childhood is also the period when children are able to learn and acquire certain skills, knowledge and attitudes very quickly with minimal effort and it is the fastest period of growth and development in all aspects (Burger, 2015). Children love to play, and play often mirrors what is important in their lives (Hughes, 2021).

Psychological Development refers to the changes in which the child is able to handle more complex levels of moving, thinking, feeling and interacting with people and the environment (Sameroff, 2010). The more industrialized nations consider early childhood to be the period from birth through age 8 (Wortham, 2000), while developing nations focus on birth through age 6 (Mbugua, 2004). The most efficient timing for fostering human growth and development towards its highest possible potential is therefore during the first six years of life (Walker, Wachs, Grantham-McGregor, Black, Nelson, Huffman & Richter, 2011). Play can be quiet or noisy, messy or orderly, funny or serious, strenuous or effortless. It can take place inside or outside and develops as children grow and change.

Children play for different reasons (Macintyre, 2016; Ember & Cunnar, 2015). Sometimes they are exploring or learning new things (Nyquist, Jahnsen, Moser & Ullenhag, 2020). At other times they are consolidating existing learning or practicing a skill (Sheppard, 2008). Play can also be a way of building or strengthening a relationship. Children often play simply for fun and enjoyment(Sheppard, 2008). They bring their own interpretations of situations, events, experiences, and expectations to their play. The main objective of pre-primary school is to ensure the holistic development of a child physically, spiritually, socially and mentally is brought about through an informal mode of interaction (Ombogo, 2012; Anagaw, 2020). Most Kenyan public pre-primary schools have a lot of play materials specifically outdoor play material because of availability of space availed by government (Chepkonga, 2018; Kamwitha, 2022).

On the contrary, private pre-primary schools have minimal space, occasioning the challenge to develop our children holistic and integrated education that meets the cognitive, social, moral, spiritual, emotional, physical and developmental needs (Muli, 2015). In Early Years Education (EYE) play is any action that is done for its own sake for enjoyment and for no rewards. According to Piaget, play is the life and the work of children. Because of their high imagination and energy, children enjoy playing very much. They like outdoor play a lot because it involves adventure (Ghazi, Ullah & Jan, 2016). They mainly engage in activities such as hide and seek, jumping, climbing frames, sliding, riding, swinging, balancing on logs and seesaws, chasing one another, construction, water play, filling and emptying (Kabiru and Njenga, 2007).

Play has a wealth of value for young children. As children play, they learn new things and also develop their mental, social, language and physical abilities (Miller & Almon, 2009). Children develop positive self-image as they play. They develop skills and abilities that make them feel good about themselves. Play provides opportunities for children to express their emotions of joy, anger, frustrations, guilt, insecurity and anxiety (Ogundele, 2018). If you watch a young child playing you will be able to identify the emotions she expresses. If she is happy, she will talk in a very happy way as she continues to play with others and with materials. If angry she will talk in a harsh voice, bang the materials she is playing with or beat the doll if she is playing with one (Kabiru Njenga, 2007). A child who feels insecure will normally caress the doll she is playing with and hold it close to the body. This makes the child feel like she is the one who is being comforted (Golding, 2008).

It is very important that adults allow children to express their emotions during play as this helps to demonstrate what they feel. As children grow older, they need to be trained on how to express these same emotions in socially acceptable ways in order to maintain good social relations (Landreth & Homeyer, 2021). The Basic Education Curriculum Framework (BECF) by KICD (2019) considers Psychomotor and Creative Activities as necessary at pre-primary level for enabling learners to develop both fine and gross motor skills which are essential for the control and coordination of different parts of the body. These activities enhance exploration and development of personal talents and skills as well as appreciation of their cultural heritage. Pre-primary physical and creative curriculum comprises play and learning activities through which children exercise their bodies, thereby facilitating blood and oxygen circulation for healthy and strong growth and development as well as creative

activities through which children develop their fine motor skills, imagination and creativity, thereby developing their talents. The previous studies cited have covered public preprimary schools leaving out private preprimary schools. This study therefore sought to determine the availability, adequacy and utilization of outdoor play environment, consisting of both the play equipment and play space, as a means of achieving objectives of psychomotor and creative activities as a learning area in private pre-primary schools in Uasin-Gishu County.

### 1.2 Statement of the Problem

The role of Early Childhood Development Education (ECDE) programmes in laying the foundation for further education and character formation cannot be downplayed (Mathwasa & Shumba, 2020; Ødegaard, 2021; Myers, 2009). The programme provides children with better start in life. According to the Kenya Institute of Education (2009), education is a process that starts with the care and education of young children and continues through lifelong learning as a mark of hope to health development of the country's citizens (Republic of Kenya, 2006). There appears to be strong support in the general provision of outdoor play opportunities for young children. According to Waller (2007) teachers have long regarded outdoor play as an integral part of the curriculum. Play is freely chosen, personally directed and intrinsically motivated. Play is essential for Early Childhood Development schools and educational development and social and behavioral skills (Wood, 2013). It is clear that risk-taking in play is part of normal development, has large individual variation, and is essential for growth and development of infants and children (Boyer, Compas, Stanger, Colletti, Konik, Morrow & Thomsen, 2006).

Early childhood period runs from birth through age 8 in the developed world (Wortham, 2000), while developing nations focus on birth through age 6 (Mbugua, 2004). The most efficient timing for fostering human growth and development towards its highest possible potential is therefore during the first six years of life (Walker *et al.,* 2011). Early Childhood Education is both the formal and informal education that the child receives as she/he grows. Informal setting of ECDE takes place at home, school, and playground in the community (Kweyu, 2012; Andiema, 2017; Mwape, 2014). Children investigate and experiment what they see through observation and imitation. The formal setting is in form of early school arrangement such as nursery school, kindergarten and institutional homes (Wawire, 2006; Williamson, Jaswal & Meltzoff, 2010). The environmental experiences provided during this period are extremely significant because they either enhance or deter the realization of the child's full potential in life (Young, 2002).

Despite the fact that education is the sole responsibility of the government, in Kenya however, majority of the Early Childhood Development centres are privately owned. Given the crucial nature of the ECD programme, there is need to find out whether all domains in learning are happening in private preschools as is the case in public schools. Little was known about the status of outdoor play environment in private pre-primary schools in this county.This study therefore sought to assess outdoor play environment for teaching and learning in private pre-primary schools in Uasin-Gishu County with the aim of finding out how prepared these private preprimary institutions were in providing outdoor play activities.

## 1.3 Research Purpose

The study assessed outdoor play environment for teaching and learning in private pre-primary schools in Uasin-Gishu County.

### 1.3.1 Objectives of the Study

i. To determine the availability of outdoor play space for teaching and learning in private pre-primary schools in Uasin-Gishu County.
ii. To determine the utilization of outdoor play space for teaching and learning in private pre-primary schools in Uasin-Gishu County.
iii. To find out the adequacy of outdoor play materials for teaching and learning in private pre-primary schools in Uasin-Gishu county.
iv. To assess the utilization of outdoor play material for teaching and learning in private pre-primary schools in Uasin-Gishu County.

### 1.3.2 Research Questions

i. What is the extent of availability of outdoor play space for teaching and learning in private pre-primary schools in Uasin-Gishu County, Kenya?
ii. How has the outdoor play space been utilized for teaching and learning in private pre-primary schools in Uasin-Gishu County, Kenya?
iii. What is the extent of adequacy of outdoor play materials for teaching and learning in private pre-primary schools in Uasin-Gishu County, Kenya?
iv. How is the utilization of outdoor play materials for teaching and learning in private pre-primary schools in Uasin-Gishu, Kenya?

## 1.4 Significance of the Study

Private Early Childhood Development in Kenya has been commercialized providing both play environment and proper learning environment in their efforts providing play environment over their rivals. Secondly, researches have not yet been carried in Kenya since little literature is available which is related to play environment. The project is now a basis for future scholars in this field and related fields. The project acted as a benchmark for future studies. The study formed the literature for future studies and also acted as a parameter for studies in similar or related studies. This therefore justified the relevance of this study in providing guidance on private preprimary schools. Finally, the study will be used by pre-primary schools in Kenya and education policy makers. It is believed that this study shaded light on how to improve the play environment.

The findings will be useful to curriculum planners and implementers in selecting and developing instructional materials and equipment that can aid teaching and play. Policy makers might also benefit as the findings of the study may guide them in formulating policies that will improve play performance. Teachers will also benefit from the study because when policies regarding physical facilities are made, they will be working in areas that are comfortable and they will know the best instructional materials to use. Children are the greatest beneficiaries because when play in an environment is improved, they will learn better. Learning in an interesting way makes it easier for them to grasp concepts as well as ensuring an enjoyable experience. The study might also motivate future researchers to conduct more research on specific facilities that affective to use in play.

## 1.5 Scope of the Study

The study was confined to availability and utilization of outdoor play spaces and materials in private Early Childhood Centre's in Uasin Gishu County. The research was carried out from the month of July 2015 to September 2015.The study targeted private pre-schools in Uasin Gishu County where the head teachers, preschool teachers and learners were targeted as respondents. The study used descriptive survey design to get information; the target population was comprised of head teachers and preschool teachers.

According to Mugenda and Mugenda 2003) Simple random sampling will be used as a technique in choosing the sample size. The target population comprised of heads of all private ECDE centers. Questionnaires was administered to the teachers while interview schedule with be administered to head teachers. The researcher also used an observation checklist to record resources in play environment. The data was analyzed using descriptive statistics which involved tabulation of data into frequencies, percentages, and tables. It is hoped that the findings might be useful to the curriculum planners and implementers in selecting and developing instructional materials and equipment that can aid the teaching and play.

## 1.6 Limitations of the Study

The researcher met most of the respondents at their schools; some of the respondents were ready to participate in the study. For those who were not ready on the first visit, the researcher rescheduled administering the questionnaire to fit the respondent's convenient time and place.

The study utilized two assistants to collect the research questionnaires. A limitation to the study is the small sample used as it cannot be fully generalized.

### 1.7 Assumption of the Study

The following assumption guided this study:

1. All respondents would co-operate in their responses.
2. Availability and utilization of outdoor play space and materials enhance teaching and learning.
3. It was assumed all private preprimary schools had space

### 1.8 Theoretical Framework

The study embraced Social Learning Theory (SLT) by Albert Bandura. The theory is chosen because it is cited as an essential component of sustainable natural resource management and the promotion of desirable behavioral change (Muro & Jeffrey, 2008). This theory is based on the idea that we learn from our interactions with others in a social context. Separately, by observing the behaviors of others, people develop similar behavior. After observing the behavior of others, people assimilate and imitate that behavior, especially if their observational experiences are positive ones or include rewards related to the observed behavior. To Bandura, imitation involves the actual reproduction of observed motor activities (Bandura, 1977). SLT has perhaps become the most influential theory of learning and development. It locates its roots in several basic concepts of traditional learning theory. It forms a bridge between behaviorist learning theories and cognitive learning theories because it encompasses attention, memory, and motivation (Muro & Jeffrey 2008).

Thus, he added a social element, arguing that people can learn new information and behavior by watching others. The social learning theory of Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others (McLeod, 2011). Bandura& Walters (1977) states: “Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action. This tied in with how small children learn especially at preschool level.

Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influence. The component processes underlying observational learning are: (1) Attention, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) and observer characteristics (sensory capacities, arousal level, perceptual set, past reinforcement), (2) Retention, including symbolic coding, cognitive organization, symbolic rehearsal, motor rehearsal), (3) Motor Reproduction, including physical capabilities, self-observation of reproduction, accuracy of feedback, and (4) Motivation, including external, vicarious and self-reinforcement. Because it encompasses attention, memory and motivation, social learning theory spans both cognitive and behavioral frameworks which underlie how preschool learn in outdoor activities. Bandura’s theory improves upon the strictly behavioral interpretation of modeling provided by Miller & Dollard (1941). Bandura’s work is related to the theories of Vygotsky and Lave which also emphasize the central role of social

learning. Social learning theory has been applied extensively to the understanding of aggression (Bandura, 1973) and psychological disorders, particularly in the context of behavior modification (Bandura, 1969). It is also the theoretical foundation for the technique of behavior modeling which is widely used in training programs.

### 1.9 Conceptual Framework

Conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and communicate this, when clearly articulated, it should assist a researcher to organize his/her thinking and complete an investigation successfully (Kombo & Tromp, 2009; Hancock, Algozzine & Lim, 2021; Yilmaz, 2013; Smyth, 2004).See the fig Figure 1.1 below:

**Independent variable**

**Dependent variable**

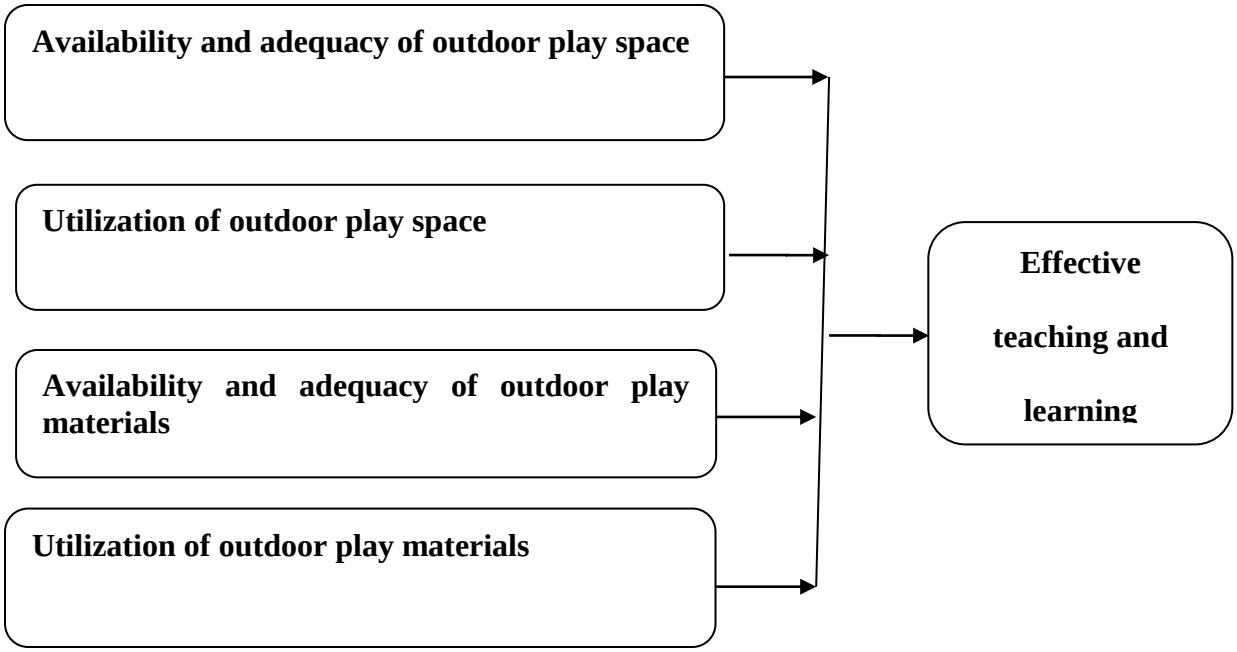


**Figure 1.1: Conceptual Framework**

**Source: (Researcher, 2020)**

This study was guided by the independent variables which include the following**,** availability of play space, utilization of space, types of materials used and available of adequate materials. These influence the dependent variable which is effective learning. Intervening variables such as school and home environment such as socio-economic status were held constant.

## 1.10 Operational Definitions of Key Terms

**Availability of play Space:** It's the approximate size of space/field for learners to play in

**CBC:** it stands for Competency Based Curriculum and it's the new curriculum based on 21st Century skills that is being implemented as a replacement of the 8-4-4 system

**Child**: A young learner in preschool aged below eight years

**Curriculum**: It is a planned teaching and learning activities that enable children at the early of their life to develop the desired knowledge, values and attitudes under the guidance of the school

**Daycare Centers**: American equivalent of EYE centers

**Early Childhood Development Education (ECDE):** this is similar to EYE as explained above

**Early Years Education (EYE):** refers to the pre-primary education offered to learners before they start primary schooling. Previously known as nursery, kindergarten or early childhood development education

**Holistic development:** is a practical **approach** to a comprehensive learning system where physical, social, emotional, mind and spiritual **growth** of a child is taken care

**Learning**: The process of knowing how to inculcate play in pre-primary school activities

**Outdoor play:** It is being increasingly recognized as essential for their healthy development and refers to psychomotor and creative activities undertaken outside of the classroom in a field by learners

**Outdoor play activities**: Outdoor play are activities done in open air by children within the confines of pre-primary centers through which they find happiness and help them grow physically, intellectually, socially, morally, and emotionally upright

**Participation**: Involving a pupil to take part in outdoor activities for acquisition of knowledge, skills and attitudes that aid in intellectual, physical, social and emotional development.

**Play Environment:** this comprises of both the field (space) and the equipment used by learners while playing

**Play Materials:** items used by learners as aids in play such as bean bags, balls, etc

**Play Space:** refers to the field for play by learners

**PPI**: These are learners in preprimary schools and those in primary grades one, two, and three

**Pre Primary School Centers**: These are places where children at an early stage of their life mainly 8yrs and below are taught. In this study it was used to represent an institution of learning where children are taught in their early years just before joining primary school.

**Preschool**: same as preprimary, ECD

**Preschoolers**: children studying in preprimary schools

**Private ECD:** this refers to pre-primary schools that are not run by the government but by private investors

**Utilization of space:** It how the pre-primary school ground is maximized or partitioned to enable for various play activities to be undertaken

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter presented historical development into past works and trends records concerning the proposed study. The literature review enabled the study to identify key areas that have thoroughly been researched on, the strength and weaknesses of past researchers, and identify the gaps to be filled from these studies.

## 2.1 The Concept of Play and Its Significance in Children's Lives

In the words of Follari (2011), "There is no more influential period of life than the first eight years". At this stage in their lives, children need a solid foundation for the development of innate potentials (KIE, 2004). It is during EYE period that children develop longlasting attitudes, values, skills, behavior (BASKIVs) and habits (Adewole, 2013; Bakken, Brown & Downing, 2017). The four domains of child development (i.e. Physical, Cognitive, Social and Emotional development) should be the focus in EYE. This points to child play as it leads to wholistic development (Catron and Allen, 2008; Jackman, 2009; Bredekamp, 2011; Essa, 2011). Aspects like active, healthy bodies, decision-making, negotiation skills, thinking, motor skills, and emotional growth are nurtured (Hyndman, Benson & Telford, 2016). Play is an important part of children's life. According to Bartlett play is a "basic human drive" that is basic to development. She also defines play as engaging in the surrounding world through "exploration, manipulation, physical exuberance, experimentation and pretense, either alone or with others" (Bartlett, 1999).

In addition, children develop “flexible and divergent thinking” which then gives children the ability to solve problems in the real world (Staempfli, 2009). Biddy Youell states that play could be considered as a helpful tool for cognitive development, and “a vital precursor of the capacity for work and love” (Youell, 2018). According to Margaret Lowenfield (1991), "play is to a child work, thought, art and relaxation and cannot be expressed into any single formula. It expresses a child's relation to himself and his environment and, without adequate opportunity for play; normal and satisfactory emotional development is not possible." Some scholars believe that play is a kind of informal learning (Dyment and Bell, 2008). Also, it can be considered as an experience of real life for children's future life and work environment (Youell, 2018). It means that play can help children with their future social life to interact with others and in the work environment.

Jean Piaget introduces play as a biological model of interaction between child and environment. Also, he introduced five characteristic to recognize play:

1) Play is an end itself while other behaviors involve an aim not contained in the activity.

2) Plays are spontaneous.

3) Play is an activity for pleasure.

4) Play is considered to be devoid of organized structure.

5) Play is free from conflicts. (Piaget, 19)

Play is essential to development because it contributes to the cognitive, physical, social, and emotional well-being of children and youth (Milteer, Ginsburg, Mulligan, Ameenuddin, Brown & Swanson, 2012).

Play is the tool that children use to learn about the world and society. Through play, their social and cognitive needs can be met and developed. Play is the way that children interact with this world and create experiences to understand society and human interaction (Milteer *et al.,* 2012). Play allows children to create and explore a world they can master, conquering their fears while practicing adult roles, sometimes in conjunction with other children or adult caregivers (Milteer *et al.,* 2012). Play will help children become self-efficient problem solvers because during play children create and solve their own problems. When a child is asked to solve an academic or real-life problem, they will be able to use the skills that they practice during play to find a solution. Play helps children develop new competencies that lead to enhanced confidence and the resiliency they will need to face future challenges (Milteer *et al.,* 2012). Play contributes to developing the whole child. Through play a child's creativity, physical and cognitive abilities are refined and strengthened.

Using play as a tool to teach in the early childhood classroom will bring a holistic approach to the content and will help develop every part of each child (Milteer *et al.,* 2012). Play allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive, and emotional strength. Play is important to healthy brain development" (Milteer *et al.,* 2012). Play is an essential element in early childhood programs, because it provides young children with the opportunity to (1) express their ideas and their feelings, (2) symbolize and test their knowledge of the world, and (3) acquire effective support for academic and pre-academic learning (Saracho, 2012). Through play, children can synthesize and internalize information that they have learned.

After teaching a lesson, letting children play will help them put the information they have just learned into imaginary "real-world" situations (Saracho, 2012). If play cannot be used within the lessons to teach the content, then it is important to use it after the content is taught to help children internalize what they have just learned. Children integrate everything they know in all domains when they play. Play is valuable to young children mainly as a medium for learning (Saracho, 2012). Vygotsky, an educational and child development theorist, was a strong proponent for play based on the child development research that he conducted. One theory that Vygotsky had was that play enhanced children's language and literacy development. He also argued that play enhanced children's cultural experiences and development by giving them "cultural tools", including language development (Saracho, 2012). Similarly, Vygotsky (1967) argues that human beings acquire cultural tools extending their developmental capacity.

Generally, the cultural tools include language as well as the various ways of knowing that are critical to cultural development" (Saracho, 2012). Vigotsky (1978) theorized that young children use private speech in play to regulate their behavior, eventually transforming this private speech into self-regulation through internal thought (Bergen, 2002). Researchers worldwide assert that play equipment for outdoors offer a list of benefits to the child’s early life (Hammond, 2019; McClintic & Petty, 2015; Obee, Sandseter & Harper, 2021; Ihmeideh & Al-Qaryouti, 2016). Children rely so much on play materials such as balls, bean bags, hoops, ropes, and so on, to play (Harper, Symon & Frea, 2008). 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, math's and problem-solving, there was a need to investigate the extent to which play materials affect children engagement in outdoor play activities.

## 2.2 Importance of Outdoor Play to Children

The Association for Childhood Education International (ACEI, 1998) recognizes the need for all children of all ages to play and affirms the essential role of play in children's lives, ACEI believes that as today's children continue to experience pressure to succeed in all areas, the necessity for play becomes more critical. ACEI supports all adults who respect, understand and advocates legitimizing play as an essential pathway to learning for all population of children; adults should use their knowledge about play to guide their practice. When children are involved in play they become interested rather than doing nothing because play increases their level of activity and arousal.

According to Docket and Feer (1991) children play has some phases which reflect a continuation of theme or reputation of an occasion or it may be an example of fleeting interest. Bellyne (1960) confirms that play is pleasurable experience children normally engage in because it is a pleasurable experience. Children do not set out to play with a goal of learning something or improving skills but rather engage in play for the pleasure it affords them. Piaget (1951) on the other hand viewed play as an active process which involved a lot of activities whether physical like tug of war or at times mental activity like: playing with words, imaginative play where children build houses using blocks therefore arrange blocks to form a picture of a house. Limo (1986) seems to support Piaget's idea. Limo views play as being symbolic. He sees children's play to be involving a lot of make believe, where people and objects may be treated differently. These can be seen when children use dolls as babies and imitate the cry of babies as they pretend to be the mother in the family.

Stanly Hall (1844, 1924) observed children playing and saw that their play behaviors changed with age. He saw children play as a reflection, as a process of evolution and suggested that play was the mechanism through which the child expelled the surplus energy that build up a normal healthy nervous system. He suggested for survival purposes such as hunting play was its outlet. Karl Groos (1901) view was that play allowed children to practice the skills needed in adulthood. He believed that through play children would practice skills needed in adulthood without guidance from an adult and suggested that if children did not have opportunity to play the result would be lack of intellectual progress. Froebel (1752, 1885) used carefully planned play materials which were applicable to family life so as to create meaningful learning situations.

Generally, play prepares a child into a real-life activity so his view supports Karl Groos view. In agreement with this view is Maria Montessori (1912) who said that each child possessed a capacity to develop and the development in them progressed in stages. Therefore, play is an integral part of learning because as children play the thought capacity is developed through training the senses (seeing, hearing, smelling, touching and tasting) she argued that play promoted physical development and body coordination and that the small and large motor skills are refined and developed during play. NACECE (1993), states that play helps children to discover their bodies and know how they function. Play also assists in personality and emotional development. As children try out different rules during free play, they release feelings and express themselves in non-threatening atmosphere thus developing holistically.

Play helps children develop schemes of how things work and therefore lay foundation of cognitive growth. Smith (1917) states that play enhance language development as an integral part of learning. That outdoor play gives children opportunity to interact with various play equipment as well as other children forcing them to communicate and through communication children acquire knowledge from each other. Play promotes socialization among children. It also enables children to learn how to live with others harmoniously by thanking others for what they have received waiting for one's turn so as to accomplish an activity. According to Margaret McMillan (1860, 1931) outdoor activities such as climbing frames is important to children since it develops their finger muscles so that they can grip and hold equipment firmly. It also gives children the opportunity to exercise their large muscles thus promoting motor development of the children.

According to Folio (1983) play activity such as skipping ropes helps children to develop coordination of the arms and legs which is more systematically and in position. The skipping helps a child to develop both the fine and large motor muscles which become stretched and enlarged thus motor development of the child. However, findings from the recent explosion research on the brain and learning also delineate the importance of play. Jensen (2000) states: that active brain makes permanent neurological connections critical to learning. Inactive brains do not make permanent neurological connections. Research on brains demonstrates that play is scaffold for development, a vehicle for increasing neural structures and a means by which all children practice skills they need in later life. According to Catron & Allen (2008), a healthy environment (play space) should be one that provides for children's needs for rest and relaxation; exploration and enjoyment.

Essa (2011) recognized that higher cognitive skill levels and social competence were identified in learners who were in safe, orderly schools that availed stimulating equipment and materials. Morrison (2011) posits that the play environment needs to be supportive of a learner's development and learning. By supportive environment, Morrison meant where teachers spend time with children, pleasantly interacting, encouraging and helping them. This could involve teachers playing with learners, demonstrating new games, providing needed equipment, settling disputes and being in charge in the event of emergencies. Syomwene (2017) states that play environment should be designed with children's needs and development in mind. This is because the environment would enhance children's self-esteem when it's designed with their needs and development at the back of the designer's mind more than being a place of letting off steam and exercising large muscles.

According to Essa (2011) the outdoor area should provide chances that enhance socialization, cognitive and speech development, sensory exploration, creativity in expression and an appreciation of nature. This calls for ample outdoor space for learners to avoid crowding when undertaking play activities.

### 2.2.1 Availability of Outdoor Play Space for Teaching and Learning in ECD

According to Margaret McMillan (1860, 1931) outdoor environment is as important as indoor environment. McMillan recognized that children could learn a lot from the outdoor environment if a variety of physical play equipment were provided for children to manipulate at the outdoor environment. She believed that first-hand experience supports learning, which is free play with opportunity to use various materials. However research done by Millicent (2010) on influence of play materials on preschool children's performance found that most teachers put more emphasis on equipping the indoor environment with play materials as opposed to the outdoor environment as they viewed the classroom to be more important as opposed to the playground.

According to Pestalozzi (1746, 1825) children's learning should progress from concrete to abstract. Their mental and physical as well as other aspects of development change as they grow. Therefore they should be allowed to build concept through play activities with opportunity to use a variety of facilities rather than direct teaching. Children's environment should be that which enhances active participation in learning process rather than passive participation. A responsible learning encourages participation and supportive attitude towards the same.

Piaget (1936) echoed the idea of Pestalozzi that physical play facilities make learning real and enjoyable. He argued that children who are 6 to 11 years are in the concrete operational stage where learning is practically based on the use of concrete materials. At this state, children need direct experience rather than verbal description. Therefore when teachers want to introduce the skill of balancing, there should be a sea saw at children's disposal so that they can use the facility in participation in balancing. Where children participate they discover, explore and manipulate thus making their learning more concrete and real. NACECE (2004) explains that when children play nothing suits them better than gathering different materials, examining their differences and similarities. Play facilities set situation where children learn through trial and error.

Children who watch the teacher demonstrate a skill during directed play activities will later on want to try to perform the skill during free play and imitate exactly what the teacher did thus learning will have taken place. Play materials enhance creativity among children because they will want to create own ways of doing an activity using the materials and facilities apart from the ones shown by the teacher. Play facilities make the outdoor environment at school supportive to children's participation in play. Adequate play facilities enable children to learn in a relaxed manner. When the facilities are available children take part in play and in so doing develop a sense of independence and mastery of materials and equipment being used. Play facilities also enables children to acquire skills of sharing, respect to each other, taking turns, cooperation, following instructions as well as obeying rules.

### 2.2.2 Utilization of Outdoor Play Space for Teaching and Learning In Early Years Education

Froebel likened the role of the teacher to that of a gardener. In his kindergarten, or children garden, he envisioned children being educated in close harmony with their own nature and the nature of the universe. His concept of children and how they learn was based in part, on the idea of unfolding, held by Comenius and Pestalozzi before him. The educator's role, be it parent or teacher, was to observe this natural unfolding process and provide activities that would enable the child to learn what he was ready to learn. The teacher's role, in essence, was to help the child to develop the qualities for learning inherent in every human being. In this sense, the teacher was a designer of emergencies and activities (Froebel, 1887). According to Schwartzman (1979), children play what they know and build on from what is known to unknown skills. What they know is stereotyped and biased and it would be reflected in their play.

In pre-school, adults are referred to as teachers. They have an important role to play in children play activities. In play, the major role of the teacher is to ensure that enough time is allocated and playing materials are provided to all children (Frankel, Cantwell, Myatt & Feinberg, 1999). There has to be enough space for all children to play freely and the teachers should never force any child to do an activity if they do not wish to do. Instead, he or she should provide simulative environment where children can have genuine play choices and maintain play to an acceptable standard. The teacher should maintain safety of playing materials such that they do not harm the children as they play. He should communicate with the parents concerning children's play. There should be a guideline to instruct the children on how to play.

By doing this, children at times imitate their teachers' words and actions which help them develop their social skills. In pre-school, teachers have an important role to play when supervising children's development and learning. Smolensk's work in Israel (1968) led her to conclude that children who play on their own reach an initiative stage but do not progress further. The same conclusion was made by (Tough, 1976), that in play, children's language is developed well only when a teacher takes part in talking to them and stimulating them with questions (Ngecha, 2011). It is generally agreed that children play develops through stages that are loosely linked to the child's age and stage of development. Stages of play are far and rigid younger children will play at more advanced levels. If they are with older children or adults, older children will return to previous stags of play if they are with younger children or during times of stress or just because they feel like it. Observe a family group of different aged children and often they will cooperate in play across the stages. An older sister may play 'pretend play" using small world figures with a younger brother and then, help him to count or understand the rules of a board game. Piaget distinguished between" practice play" symbolic play and games with rules as the stages of play young children go through developing the concept of stages further Smilanky & Shefatya, (1990) identified five basic forms of play.

**Table 2.1: Forms of Play**

| Form of Play | Description |
|---|---|
| Functional or exploratory play | A baby chewing ,throwing and shaking a rattle |
| Constructive play | A baby or toddler building with plastic bricks, a four year old making model with play dough. |
| Dramatic play | A 3yr old pretending to parent doll, a four yr old dressing up a spider man and acting in the role. |
| Social dramatic play | A 5 and 6 year old dressing up and acting out scenes from a favorite film, a group of 6 and 7 olds making up and putting on a play. |
| Games with rules | A group of 7 and 8 year old playing off the ground in the playground, a family of children aged between 7 and 8 playing a board game. |

Source: (Smilanky & Shefatya, 1990)

Children aged 0-3 tend to be involved mainly in the first three categories of play although many 3 years old will be learning about social dramatic play from siblings and other older children. Babies are more involved in the functional or exploratory play in which they develop manipulative skills and explore their environment through their senses. This may involve throwing banging or chewing objects, manipulating objects to give a response, for example shaking a rattle effectively children of this age play largely as a medium of exploring their world and gaining knowledge and pleasure from it.

Goldschmied and Jackson (1994) discuss the concept of heuristic play suggesting that babies and young toddlers are absorbed in determining through experimentation. What objects will ‘do’or ‘not do’ through actions such as putting in and taking out (Holland, 1997) Constructive play develops from earlier manipulation of objects and involves combining objects into structures for example building with bricks. In dramatic play the child is developing “pretend play” by adopting roles and using objects or imagination to support this process. Curtis and O’ Hagan (2003) suggest that pretend play start as a solitary activity at about 12months old and is played in parallel with older children at about 2 years old. By the time the children are three or older they can engage in complicated dramatic play sequences, which become more and more involved with increasing age (Curtis and O’ Hagan,2003).

### 2.2.3 Adequacy of Outdoor Play Materials for Teaching and Learning in Private ECD Centers

Children’s intellectual development indicates that a number of cognitive skills, including measurement, equivalency, balance, spatial concepts, conservation, decentralization, reversibility and logical classification are enhanced during play (Mugweni, Mutemeri & Ganga, 2012; Hughes, 2003). In addition, play is thought to afford children the opportunity for creative expression, as well as to actually facilitate creative processes, including divergent thinking (Mugweni et al., 2012; Hughes, 2003). Socio-dramatic play allows children to create alternative worlds and encourages them to engage in subjunctive representation of reality (Francis, 2020). It enhances the child’s need to organize a complex environment into meaningful scripts and schemas for possible action in the future, and encourages children to plan, to

consider a variety of courses of action, and to communicate their plans and courses of action to other people (Mugweni *et al.,* 2012). It stimulates the 'what if' type of thinking that forms the basis for mature hypothetical reasoning and problem solving. It encourages children to think creatively, and has been found to predict later creativity. In addition, extensive involvement in traditional games and socio-dramatic play has been seen to improve children's memory, language development and cognitive perspective-taking abilities (Majebi & Oduolowu, 2021; Al-Thani, 2022).

In the area of language development Ormrod (2000:63-64) observes that there is a growing body of evidence in support of a relationship between various forms of spontaneous play and linguistic development (Mugweni et al., 2012). In fact, all of the four aspects of the human language system namely the phonological, syntactic, semantic, and the pragmatic are incorporated into young children's play (Cong & Liu, 2014). During playing traditional games children engage in language play (Bell, 2012; Adi, Irianto & Sukarmin, 2022). Garvey (1984) suggests that there are four different types of language play, which roughly correspond to the different aspects of language (Hughes, 2003).

These are: play with sounds and noises, play with linguistic systems such as those involving word meanings or grammatical constructions, play with rhymes and words, as well as play with the conventions of speech. While the purpose of language play is not fully understood, it is worthy to note that language play involving sounds and sound structures has been observed in lower animal species as well as in human off-springs. Play is thought to facilitate cognitive, social, and linguistic development (Whitebread, Neale, Jensen, Liu, Solis, Hopkins & Zosh, 2017).

During playing traditional games, three-to-four-year-old children become fascinated with sounds such as songs, chants and rhymes (Mugweni et al., 2012). They enjoy nonsensical rhyming patterns. Play of this type is related to language development in that the ability to sing and rhyme is highly correlated with early speaking and reading achievement in children (Politimou, Dalla Bella, Farrugia & Franco, 2019). The connection between play and divergent thinking has been established in various lines of research. First, a relationship has been found between divergent problem-solving ability and the characteristics of children's play materials (Dansky & Silverman, 1973). Pepler and Ross (1981) gave 64 preschool children the opportunity to play repeatedly with convergent (puzzles with one correct solution) and divergent (blocks, which can be assembled in a variety of ways) materials. When the children were later asked to solve a variety of problems, those who had engaged in divergent object play was more flexible and more original in their problem-solving approaches.

Generally the preschool children were quicker to abandon ineffective problem-solving approaches than those in the convergent play group (Pepler and Ross, 1981). Playing with open-ended materials, on the other hand, may suggest that there are numerous approaches that can be taken to any problem. It has been suggested that the link between fantasy play and divergent thinking can be found in the concept of decentration (Glăveanu, 2015). This involves the ability to attend simultaneously to many features of the environment in order to transform objects and situations. A child who engages in make believes during playing knows that the subject he/she is running away from is a human being. Make-believe play, therefore, provides evidence of a considerable amount of intellectual flexibility in the child, and flexibility is a key ingredient in creativity.

While imaginative play cannot and should not be considered without reference to the social context in which it occurs. The freedom to play, and to play as one chooses, can vary from one cultural milieu to another. It depends on the amount of play space and free time that is available. It also depends on parental and general societal attitudes about the relative importance of play and work in children's lives (Mugweni et al., 2012). The constraints and fears that limit children's opportunities for play, particularly outdoors, deprive children of essential childhood experiences and opportunities (Whitebread, Basilio, Kuvalja & Verma, 2012). These are: opportunities to develop friendships and negotiate relationships; opportunities to grapple with the full gamut of emotions including those such as jealousy, boredom or anger, as well as happiness and satisfaction; opportunities to take risks, have adventures and misadventures; to have contact with nature and the environment (Casey, 2007).

It is because play offers unique benefits to children that the right to play is included in Article 31 of the UN Convention on the Rights of the Child which recognizes: The Right of the child to rest and leisure, and to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts (Casey, 2017). UNICEF in Kenya, not much research has been done on the impact of children's population in a given play area on the quality of play (Anderson, 2010). Thus, this study sought to investigate the availability and usage of outdoor play environment in public (ECD) settings in an effort to attain availability of space and usage of space to the development of a child. Every child care center shall have an outdoor play area. In full time center-based care, this area is to be minimally 7sq m of play space per child, enclosed and surfaced to meet the standards described in this manual (Razak *et al.,* 2018; Little & Wyver, 2014).

The measurement of 7sq m per child is inclusive of fixed equipment and protective surfacing zones. If a center accommodates children from birth to 24 months, outdoor play space shall be physically separated from the outdoor play space used by any other age group at that center. At least two different types of surfacing must be included in the design of the outdoor play area (Moyles, 2014). In part time programs, any on-site outdoor play area must comply with the same safety standards as those in place for full time programs (Moyles, 2014). If the outdoor play area is off-site, it is to be within reasonable walking distance for the ages of children enrolled in the child care center. There must be safe access to this off-site area and the operator must ensure that the area and the equipment are safe (Larson, Looby, Frost, Nanney & Story, 2017).

"Off-site" refers to play areas that are either not on the child care premises, yet are safely accessible and within a reasonable walking distance, or to play areas that are on-site but are operated by a third party, for example, if a center is located in a public school, the school yard is to be considered "off-site" as it is operated by a third party (the school administration). There appears to be strong support in the general provision of outdoor play opportunities for young children in the foundation stage Waller (2007) notes that early years teachers have long regarded outdoor play as an integral part of the curriculum. Casey (2007) asserts that providing for physical activity is one of the important roles of outdoor play alongside providing regular time and space to play in an interesting physical environment in order to draw on their resources develop their identity and social relations connect to the community and have contact with nature (Casey, 2007).

The children play council suggest that outdoor play should provide opportunities for movement (running, jumping, climbing) as well as challenge in relation to the physical environment and opportunities to play safely with natural elements (earth, water, fire) (Cole Hamiton *et al.,* 2002). According to Stephen (2002) interesting features of the outdoors that supports its role in facilitating active play. One of these is that outdoors is always changing while indoors stay relatively static. Children can get positive opportunities for play that varies with season; temperature, wind or arrangement of physical features. For example in New Zealand and play settings it was found that children could be encouraged to be more active simply by placing football goals or dens outside. She notes that the outdoor tends to support physical as there usually fewer rules more space and running and shouting are not frowned upon (Stephenson 2002).

DFES\QCA (2002) asserts that effective teaching depends on planning the indoor and outdoor environment carefully to provide a positive context for learning and teaching. Updated detailed guidance is also now available with specific focus incorporating outdoor learning in the early years foundation stage (DCSF, 2007). Edgington (2004), notes that for maximizing the use of outdoor space, try to see indoor and outdoor space as one environment that offers and/or compliments for different opportunities for learning. Try to alternate indoor and outdoor sessions as appropriate. Provide materials specifically for physically active play including role play. This might include games as lifting and maneuvering heavy crates or tyres, riding or pushing wheeled toys, climbing ladders to paint a wall with water or gardening with child sized spades or other tools. Work with natural materials such as shells, twigs, large pebbles, logs, cardboard, milk crate, tyres, guttering of twigs, large pebbles, logs,

cardboard, milk crates, tyres guttering and tubes available as building materials for children to make dens of other spaces and finally provide diverse activities for example grass to creep hide and crawl, tree trunks and stumps to jump and climb on: tractor tyres to climb or sit on paths for bikes and wheel barrows spaces to dig the soil (Engel, 2003) Teachers are expected to plan out play environment early by taking into consideration issues of light wind direction and planting times (Engel, 2003).

### 2.2.4 Utilization of Outdoor Play Materials for Teaching and Learning in ECD

Ancient Egyptian, Greeks and Romans had rich conceptions of childhood. Children were seen as "small adults" and games were not specifically for children but were used to entertain adults as well. John lock on the Tabula Rasa view ($17^{th}$ century) advised parents to spend a lot of time with their children and to guide them through instructions, examples and rewards such as praise and approval (Ngecha, 2011). In Ghana, the development of an integrated ECDE policy was prompted by the Accra (Boakye, Etse, Adamu-Issah, Moti, Matjila & Shikwambi, 2008).

Parents are categorized as the first caregivers and educators of their children and they are expected to contribute by giving ideas as the types of services required, putting up, equipping and running the preprimary centers (Ngecha, 2011). In Mauritius, policy relating to parents and community involvement emphasizes the need for parental education and advocacy to raise the community's level of awareness on the importance of preprimary education (M.O.E, 2005). According to Moti (2002), parents and communities are involved in the management of day care centers and pre -schools through parents who pay fees for the services but are subsidized by the government and employers.

Availability of adequate play materials in EYE can be equated to provision of textbooks in upper level classrooms (Culfaro, 1991). Materials are tools which children use to give form to and display their knowledge and understanding of the world. Play grounds should have equipment that encourages both quiet and active, individual and group activities. According to Catron & Allen (2008), playground equipment can be: (i) sensory and tactile material; (ii) creative and dramatic play materials, and; (iii) large motor materials. The adequacy of play equipment makes play environment challenging (Syomwene, 2017). Such an environment provides opportunities for children to engage actively among themselves and even with teachers (Morrison, 2011). Since children learn through sensory stimulation, imitation, observation and many other practical ways, opportunities should be accorded to them to grow and develop in a loving, affectionate, protective and caring environment.

In Kenya, traditional education was for every child and it existed for the purpose of strengthening the community (Bowker & Tearle, 2007). It was remarkably comprehensive and holistic. This was because its aim was to integrate the child fully into the life of the community. Communities recognized the importance of play which was done after work. Children were left on their own to play and to develop their own play activities and toys. They engaged in creative and make-believe play as well as in group and competitive play such as wrestling and dancing. Parents played the central role in the education and socialization of children (Kabiru & Njenga, 2007). Pre primary education curriculum in Kenya has undergone major changes over the years (Namunga & Otunga, 2012). Social and economic changes have occurred which in turn have influenced childcare and socialization (Woodhead, 2006).

Mothers are often overburdened by the combined responsibilities of childcare, household chores, farming and other livelihood activities (Kassa & Abebe, 2016). They carry out these activities without support from spouses, older siblings and extended family members. Some mothers are engaged in paid employment, businesses and commercial farming to supplement the family income. Grandmothers, neighbors or house helps are hired to assist with childcare when the mother is away (Clark, De Almada, Kabiru, Muthuri & Wanjohi, 2021). High risk factors such as armed conflicts, natural disasters, food shortages, increasing poverty and HIV and Aids have increased the need for childcare centers that can provide safety for children at least for part of the day (Chi, Bulage, Urdal & Sundby, 2015). However, some parents have refused to pay fees to preprimary centers as they expect the government to offer Free Pre-school Education (Muricho & Chang'ach, 2013; Maina, 2011).

This has led to decline in enrollment in preprimary Centers due to poverty especially in the marginalized areas and the slums, hence no quality preprimary school services for the children. The children in these areas suffer from lack of food, adequate clothing and health care services (Mwangi & Serem, 2013). The pre primary centers are also few and where they exist they are of poor quality. They lack adequate facilities, feeding programs, adequate learning and play materials (Kang'ethe, Wakahiu & Karanja, 2015). According to National ECD Policy Framework (2006), Parents should provide security and protection, stimulation, socialization, play and learning materials (Fadlillah, Wahab Ayriza, Rohmah & Ahdhianto, 2020). The importance of play, particularly outdoor play, for increasing levels of physical activity, alongside other positive influences on a child's well-being, such as

opportunities to understand and respect the natural world (Gleave & Cole-Hamilton, 2012; Parrish, Lavis, Potter, Ulijaszek, Nowicka, & Eli, 2022).

However, children seem to be getting fewer opportunities to play. A combination of poor play environments, busy school schedules and an increase in structured activities has meant that this beneficial and basic children's right has become sidelined, often perceived as an 'unaffordable luxury' (Tagg & Wang, 2016; Gleave & Cole-Hamilton, 2012). Even self-directed play during school break times, which has been linked to improving concentration and behavior during lesson times as well as offering children a unique opportunity to advance their interacting skills, have been cut significantly in recent years (Barker, Semenov, Michaelson, Provan, Snyder & Munakata, 2014). Young children need plenty of teaching resources for them to develop and grow holistically (Shih, 2022).

The space available for physical and psychomotor activities in most schools is inadequate. This is partly due to the fact preschools are mushrooming in estates and other areas where space is not enough to incorporate playgrounds (Lerstrup & Refshauge, 2016). It is common to find preschools walled around, living very little space to accommodate a play area. In cases where there is a playground it is either too small with a lot of loose soil and rocks. Some activities in physical and psychomotor curriculum area require children to roll on the floor or crawl on their knees and this is not possible on a rough terrain as it will be uncomfortable and may lead to bruising (Aminpour & Bishop, 2021).

Greater densities (more children and less space) are linked to increased aggression, decreased social interaction and non-involvement in task (Dishion & Tipsord, 2011). The space available should be utilized in such a way that there is

a) private space where children can work indecently or gain control of their thoughts and feelings

b) Space to accommodate a small group of two to six children which encourages quite interaction with one another .When an area is designed for small groups rather than only for individuals or large groups, behavior such as wandering, running, fighting over materials can be minimized (Stein and Gregory,2002)

According to Niehues et al, (2013), the cost of materials places a threat to outdoor play activities. Most of the materials that promote all round development of children are expensive to procure. Many companies have come up with resources that children can easily manipulate and do discovery learning on. Due to high levels of poverty most preschools are unable to purchase the materials (Garcia, 2000). The high cost of materials force teachers to teach without any aids and children without the benefit of materials. Since children learn by doing, the absence of materials impedes their acquisition of skills and concepts. When material s are few they are not able to play the role they were designed for and children may not have equal opportunities to manipulate them. Sometimes the high cost of materials inhibits provision of materials that are developmentally and age appropriate (Manches, O'Malley & Benford, 2010). Physical activity in childhood is important for many reasons and a variety of sources indicate a direct relationship between physical activity and children's health (Salvy, de la Haye, Bowker & Hermans, 2012).

In early childhood physical exercise helps build strong bones, muscle strength and lung capacity (Lindon, 2007). It may also increase cognitive function, improve academic achievement and accelerate neuro-cognitive processing. In addition, it appears that active children are also less likely to smoke, to abuse alcohol or take illegal drugs as they grow up. There is also evidence that exercise breeds exercise, and children in the east of England who cycle to school have been found to be much more active at other times and are aerobically fitter. There is also a suggestion that across England, children in rural areas may be more active than other children (Pretty *et al.*, 2009). Several studies have shown that playing is good for developing motor functioning and most infants and toddlers acquire fundamental movement skills through unstructured physical activity and play. Children who lack proficient motor skills often choose not to participate in physical activities as they get older, and as games become more competitive (Graham and others 2005 cited in Low Deiner & Qiu 2007).

In addition the better motor function has also been found to lead to fewer accidents. While, Fun and enjoyment are the greatest motivators for physical activity and, whilst children see health reasons as important, they are more attracted by 'unhealthy' activities if they are more fun than 'healthier' activities (Gleave & Cole-Hamilton, 2012). Young children are innately active, but this natural tendency is easily overridden by external constraints, including adult supervision (Gleave & Cole-Hamilton, 2012). Previous studies Brockman, Jago & Fox, (2011) found that children's primary motive for engaging in physically active play was for social and enjoyment reasons, to prevent boredom and because they were aware of the physical and emotional benefits of being active.

According to Brockman, Jago & Fox, (2011) freedom from adult control and the unstructured nature of physically active play is the primary sources for allowing children engaging in physically active play. However, children felt that their active play was restricted by poor weather conditions, fears and a lack of suitable play spaces. From these findings, the authors suggest that more encouragement should be given by schools to allow children outside at break times when it is raining, perhaps also providing them with waterproof clothing. Brockman and others believe that more safe places to play are required to reduce children's and parents' fears, which can prevent children from being active in their neighborhoods. The study also found that children who owned mobile phones had more independence to play actively around their neighborhood, as parents felt happier letting them play outside unsupervised if they could reach them by phone.

Opportunities for play, throughout childhood, contribute to children's life chances and development and active toddlers who grow up enjoying physically active play, especially in natural environments, may be laying the foundations for better health and a longer life than sedentary children (Zosh *et al.*, 2017). Active play is the most common type of physical activity children takes part in outside of school, and outdoor and unstructured play may be one of the best forms of physical activity for children (Noonan, Boddy, Fairclough & Knowles, 2016; Houser, Roach, Stone, Turner & Kirk, 2016). Findings in the study done by Okoruwa (2017) 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 generalized in Kwale County ECD Centers. 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-centered.

The aim of this system was to boost the numeracy and literacy of pre-schoolers at the expense of play time (Golinkoff, HirshPasek, & 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 organizing 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. Waithaka & Wanderi (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 explored the roles of teachers and head teachers in children outdoor play and how this roles influence children's participation in outdoor activities.

## 2.3 Empirical Review

Let us consider some theories that formed the thinking in this study. First we consider Maria Montessori's theory of play. The key component of this theory is based on careful preparation of outdoor play environment. According to Montessori, children get interested to engage in play when the habit 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 (Wubneh, 2020).

Montessori advocated for beautiful and child-size play materials. This means that children should be provided with clean and colorful materials (Philip, 2019; Adeniyi, 2015). Besides, the theory states that children have freedom to choose the material they like to play with (Murray, 2011; Lillard & Taggart, 2019). 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 (Pound, 2017).

The theory supports the concept of teachers' involvement in children outdoor play (Montessori, 2013). Montessori is of the opinion that, as much as children need to be given independence, they can only access play materials given by teachers (Marshall, 2017). It is the efforts of teachers that children engage in outdoors; teachers plan and decide the best time to take children out of the classroom for outdoor play (Okoruwa, 2017). The philosophies of Montessori intensely support studies on school determinations on children's engagement in play (Lillard & Taggart, 2019). 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 colorful (Moretti, 2021). 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 (Lillard & Heise, 2016; Onyango, 2014). 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 need arises (Wubneh,2020; Philip, 2019). 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 which will definitely promote children participation in play. Another theory is the Ecological Systems Theory. Urie Bronfenbrenner (1917-2005) developed the ecological systems theory to explain how everything in a child and the child's environment affects how a child grows and

develops (Mugweni, 2020; Muhia, 2011; Mensah & Badu-Shayar, 2016). He labeled different aspects or levels of the environment that influence children's development, including the:

- *Microsystem.*
- *Mesosystem.*
- *Exosystem.*
- *Macrosystem*.

The *microsystem* is the small, immediate environment the child lives in. Children's microsystems will include any immediate relationships or organizations they interact with, such as their immediate family or caregivers and their school or daycare *(*Egan & Pope, 2022). How these groups or organizations interact with the child will have an effect on how the child grows; the more encouraging and nurturing these relationships and places are, the better the child will be able to grow (World Health Organization, 2018).

Furthermore, how a child acts or reacts to these people in the microsystem will affect how they treat her in return. Each child's special genetic and biologically influenced personality traits, what is known as temperament, end up affecting how others treat them. This idea will be discussed further in a later document about child temperament. Bronfenbrenner's next level, the *mesosystem*, describes how the different parts of a child's microsystem work together for the sake of the child. For example, if a child's caregivers take an active role in a child's school, such as going to parent-teacher conferences and watching their child's soccer games, this will help ensure the child's overall growth.

In contrast, if the child's two sets of caretakers, mom with step-dad and dad with step-mom, disagree how to best raise the child and give the child conflicting lessons when they see him, this will hinder the child's growth in different channels. The *exosystem* level includes the other people and places that the child herself may not interact with often self but that still have a large effect on her, such as parents' workplaces, extended family members, and the neighborhood. For example, if a child's parent gets laid off from work, that may have negative effects on the child if her parents are unable to pay rent or to buy groceries; however, if her parent receives a promotion and a raise at work, this may have a positive effect on the child because her parents will be better able to give her physical needs. Bronfenbrenner's final level is the macro-system, which is the largest and most remote set of people and things to a child but which still has a great influence over the child.

The macro-system includes things such as the relative freedoms permitted by the national government, cultural values, the economy, wars, etc. These things can also affect a child either positively or negatively (Boon, Cottrell, King, Stevenson & Millar, 2012). In the African culture, most children's free play takes place during playing traditional games (Frost, 2010). In light of the fore going assertion, it could be viewed that it is the spontaneous child play that facilitates development. Most of these games children play emerge from their prior cultural experiences. Mutemeri & Mugweni (2005) view that a people's culture is an important survival strategy passed down from one generation to another through processes of enculturation and socialization; a type of roadmap that serves as a sense-making device that guides and shapes behavior.

Children need wide play environments that are spacious and enabling. (Mugweni, Mutemeri & Ganga, 2012; Bosah, Ifeoma & Emmanuel, 2015). The interaction that takes place during playing traditional games in limited space mostly develop into another form of play and emotional encounters such as pinching and pushing each other. Ormrod (2000) observes that cognitive theorists support the view that spontaneous imaginative play facilitates children's intellectual development. For example, Piaget (1962, 1969) maintains that games of construction often arise from symbolic play, and these games are initially embedded with play symbolism, but later tend to constitute genuine adaptations or solutions to problems and intelligent creations. Thus, he argues that spontaneous play facilitates intellectual development, in that it can lead to discoveries about the physical environment.

Vygotsky (1986) in Slavin, (2000), suggests that pretend play facilitates the mastery of symbolism, the understanding of a relationship between the signifier and the signified, which is one of the cognitive foundations of literacy. Imaginative play frees behavior and thought from the domination of the immediate perceptual field. It represents a middle- ground between the literalness of seeing meaning as immediately apparent and inherent in objects. Hence, it constitutes a form of thinking that is totally separated from real situations. On play and development in young children, Tamis Lemonda, Katz and Bornstein (2002) discuss the role of play in five areas of development.

| | |
|---|---|
| Psychological | Regulation of arousal, expressing emotions, resolution of conflicts |
| Mastery | Attention span and task directed behavior |
| Cognitive | Acquisition of information and skills, creative and divergent thinking, representational abilities |
| Social | Giving and receiving taking account of others thoughts and intentions in decision making. |
| Culture | Means of transmitting social roles and cultural values. |

These five areas of development are crucial for a child to successfully access the community and curriculum of more formal education settings. Tamis Lemonda, Katz, and Bornstein (2002) also suggest that an infant development through play depends on a range of interactions with different types of others. After the first year, play interactions with peers and siblings increase in prevalence and may be more intense and effectively charged than those with mother (Tamis Lemonda, Katz and Bornstein, 2002). The implication is that different aspect of young children development supported through play with different types of people for example play with parents tends to be about, conventional objects use and convergent thinking. Tamis et al (2002) based on conveying information about the real world rather than fantasy or imaginative play, which is more likely to be found, in play with siblings. Outdoor playtime is one of the critical elements that have 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).

## 2.4 Related Studies

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 centers should be provided with at least sixty minutes of 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 centers 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.

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 (Charles & Louv, 2009; Arnas & Deniz, 2020). 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 (Jessen & Nielsen, 2003). Due to the fact that the above studies were done in Europe and USA, the findings cannot be generalized in this study location.

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 center timetable affect children's engagement in outdoor play.

Slutsky & DeShetler (2017) 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 Centers 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 preprimary schools 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 (Mwangi, 2016). This recommendation concurs with some of the findings of Mahindu's study.

Several additional studies have been undertaken in Kenya. Akoth (2016) undertook a study on the impact of outdoor activities on pre-school children's physical skill development in Langata Sub-county, in Nairobi. The study concluded, among others, that when pre-school learners were exposed to manipulative and vigorous play, they developed physical skills based on the manner in which they played. The study noted that provision of outdoor play facilities and equipment enhanced children's physical skill development such as throwing and catching, running forward and backwards, static balance, rope skipping, swinging and others.

Another study was undertaken by Ochanda (2015) on effect of play equipment on pre-school children's participation in outdoor play activities in Suba East Division, Migori County. The study recommended for induction of pre-primary school teachers on their roles in provision of play equipment coupled with supervising learners during outdoor activities. The inductions would help teachers in improvising most of the play equipment to be used by learners. The study also proposed regular school inspections to check on safety of play equipment and fields. Such visits were envisaged to increase safety measures from teachers and the head teachers as this would force for timely repair and maintenance in good time to avert any likelihood of accidents. The study encouraged all stakeholders to pool resources together to provide sufficient equipment in pre-schools.

A final Kenyan study for citation here is by Ayaga (2018) which sought to establish the links between utilization of the outdoor environment and pre-school children's physical activity and learning experiences. The study established that there existed a positive relationship between use of the outdoors and pre-school children's

development of various skills. The study concluded that the ability of pre-school children to perform various loco-motor and rhythmic movement activities is equated to the adequacy, availability, site and effectiveness of outdoor components.

## 2.5 Research Gaps

The main gap in this study is lack of standardized outdoor play materials in pre-primary schools. This means each preprimary school could choose its materials based on space and ability. This leads to differentiated exposure of learners to materials and even space. What is available in other parts of the world and even in other counties in Kenya may not be equally available in Uasin Gishu County. This means the study will use those materials found to be widely available in all places.

But perhaps the greatest gap is that the studies cited above were general and did not look at the divide between public and private pre-primary schools. The fact that public pre-primary schools got funding from the exchequer/County government, meant that availability and adequacy was relatively well streamlined but an in-depth study was required to focus on the private pre-primary schools.

Another gap is experience of teachers. At times experienced teachers are innovative on equipment and activities compared to less experienced. But the study considered the PP2 teachers as having fairly similar exposure and experience. During data collection, these gaps were identified and treated to minimize their influence.

# CHAPTER THREE

# RESEARCH DESIGN AND METHODOLOGY

## 3.1 Introduction

This chapter dealt with the research design, the description of the study area, the target population, the selection of research sample, and sampling procedures, the data research instruments, the data collection procedures, the validity and reliability of research instruments and data collection and analysis.

## 3.2 Research Methodology

According to Kothari (2004), research methodology is an organized and hypothetical analysis of the procedures applied to a subject area. It involves a series of steps in reporting, explaining and foretelling a phenomenon so as to get a solution. The study adopted Mixed Methods Approach. Mixed methods approach enabled for triangulation and consistency of findings obtained through different instruments i.e. interview, questionnaires and observation schedule complementarily i.e. using quantitative and qualitative results to assess overlapping distinct facets of the phenomenon under study (Melton, 2013; Lenz, 2010). The researcher opted for this methodology because both qualitative and quantitative research when combined gives much better understanding of phenomenon. Creswell, Klassen, Plano & Smith (2011) says quantitative research deals with collection of data in numerals that can be exposed to numerical analysis, whereas in qualitative research, the researcher relies on views of participants.

The study adopted a mixed method since previous studies have used for evaluating the current practices and giving a better understanding of a research problem for future decisions. This method is deemed appropriate as it gives elaborate information on availability and utilization of outdoor play environment for learner's holistic development in private ECD schools in Uasin-Gishu County.

### 3.3 Research Design

The study used descriptive survey design. It involved gathering data and analyzing in order to describe the current conditions, terms or relationships concerning a problem (Kothari, 2004). It used frequency distribution table, percentages, and means presented using charts to aid the reader in understanding the data distribution. Descriptive design is a research method which is used to obtain information concerning the current status of the phenomena to describe what exists with respect to variables in the study. It explores and describes the data needed for research. This study is important because it reduces the data to manageable form.

### 3.4 Study Area

The study was conducted in selected private pre-primary schools in Uasin Gishu County, Kenya. The County was selected for the study because of being cosmopolitan, having urban peri-urban and rural preschools and after noting the mushrooming of many private pre-primary schools among its sub-counties. These observations raised the need to find out the availability, adequacy and utilization of children's outdoor play environment in these pre-primary schools.

### 3.5 Target Population

The units of observation were teachers and head teachers in preschool. The targeted private schools are within Uasin-Gishu County and its environs, as shown in Table 3.1 below. Target population as defined by Kothari (2004) is a universal set of the study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. The study targeted private pre-primary schools in Uasin-Gishu County at PP2. The target population comprised of 1500 PP2 teachers and head teachers. The choice of PP2 was because by this level schools will have established a routine and arranged for outdoor play equipment and activities.

**Table 3.1: Target Population**

| Constituency | Number Of Private Schools | Total Head Teachers Private | Preschool Teachers |
|---|---|---|---|
| Soy | 83 | 83 | 166 |
| Moiben | 55 | 55 | 110 |
| Kapsaret | 105 | 105 | 210 |
| Turbo | 85 | 185 | 170 |
| Kesses | 90 | 90 | 180 |
| Ainabkoi | 82 | 82 | 164 |
| Total | 500 | 500 | 1000 |

**Source: (Ministry of education Uasin-Gishu, 2020)**

### 3.6 Sampling Procedure and Sample Size

The researcher used simple random sampling in order to come up with the sample under study from the population size of the pre-schools.

Since Uasin-Gishu County has six constituencies which all touch Eldoret town, consideration was made to include all the six sub counties. Thus a table showing all

the private preprimary centers in all the constituencies was drawn. Then Yamane simplified formula to calculate sample size was applied to each constituency. Further, the determination of the distribution of the 223 was based on proportional representation per constituency. This method provided units for observations to represent the entire population under study, and ensured that each member of the target population has an equal chance. The selections of the tools applied were guided by the limitations of the study as well as the objectivity of the study. The researcher evenly issued the questionnaires among teachers in a random basis depending on the size of the school, number of learners and number of teachers in the school. The larger the sample size, the lower the likely error in generalizing to the population (Saunders, Lewis and Thornhill, 2003). The study used Yamane's (1967:886) simplified formula to calculate sample sizes.

$$n = {}^{N}/_{1 + N_{e^2}}$$

where, n=sample size, N=population size, e=the error of sampling.

This formula was used to calculate the sample sizes in the study as shown in appendices. The sample size indicated in Tables 3.1 shows number of respondents. Also, Neyman allocation formula was used to distribute the sample size among the strata. The purpose of the method was to maximize survey precision, given a fixed sample size.

With Neyman allocation, the "best" sample size for stratum h would be:

$$n_{h=} \left(\frac{N_h}{N}\right) n$$

Where, $n_h$ is the sample size for stratum h, N is total sample size, $N_h$ is the population size for stratum h, N is the total population Hence,

**Table 3.2: Sample size**

| Population Category (Zones) | Target Population | % TP | Sample Size $n_{h=}\left(\frac{N_h}{N}\right)n$ | % SS |
|---|---|---|---|---|
| Soy | 83 | 17 | 37 | 17 |
| Moiben | 55 | 11 | 25 | 11 |
| Kapsaret | 105 | 21 | 47 | 21 |
| Turbo | 85 | 17 | 38 | 17 |
| Kesses | 90 | 18 | 40 | 18 |
| Ainabkoi | 82 | 16 | 36 | 16 |
| Total | 500 | 100 | 223 | 100 |

**Source: Survey Data (2020)**

### 3.7 Data Collection Instruments

#### 3.7.1 Questionnaire for pre-primary school teachers

The questionnaire was used to elicit written responses from both pre-primary school teachers. Questionnaire as a research tool involves giving written questions to a respondent who reads and answers questions asked on their own without assistance from the researcher. The questionnaire as a tool of collecting data was preferred because it gives time to respondents to carefully weigh the questions before filling in the responses (Marshall, 2005). This is research that gathers data over a large sample (Kombo et al., 2006).

The study adopted self-administered questionnaires because the target population is literate is likely not to have difficulty in responding to the questionnaire. The

questions contained both closed and open-ended questions and sought teachers view on outdoor play environment (A copy of the questionnaire appears in Appendix III).

### 3.7.2 Interview Schedule for Head Teachers

The study aimed at getting the views of head teachers concerning outdoor play environment. The interview schedule is a set of questions that guide a research when seeking responses from the interviewee. Unlike the questionnaire where the respondent reads and answers questions on their own, in an interview schedule, the researcher asks the questions and can ask follow-up questions for clarification even though, they may not have been written. Interview schedules can be structured (rigid questions requiring either agreeing or disagreeing) or unstructured (requiring elaboration). Warren (2002) suggests that interviews are communicative events aimed at finding out what participants think, know and feel. The conversation between the researcher and the participant was face to face and was conducted at an interpersonal level (A copy of the interview guide appears in Appendix V).

### 3.7.3 Observation Checklist

Observation schedule was constructed and used to help the researcher to determine the availability and utilization of outdoor play environment for teaching and learning. An observation schedule is a guide that summarizes the aspects that need to be observed when conducting a study. The schedule/checklist enables the researcher/observer to remain focused on what to look out for in the study.

This procedure enabled the researcher to adequately assess the capability of the learner within their usual relaxed learning setup (A copy of the observation check list appears in Appendix IV).

## 3.8 Validity and Reliability of the Instruments

### 3.8.1 Validity of research instruments used

Validity has to do with how accurately the data obtained in the study represents the variables of the study, if such data is a true reflection of the variable, the inferences based on the data will be accurate and meaningful. Validity is largely determined by the presence or absence of systematic error in the data. Systematic error, also referred to as non-random error has a consistent boosting effect on the measurement instrument (Mugenda & Mugenda, 1999). Validity of the research was determined by experts. The researcher used experts from the ministry of education together with her university supervisors for scrutinizing and verification of the instruments. The suggestions and advice were factored in the improvement and modification of the research instruments. The researcher conducted a pilot study in order to pre-test the instruments just before actual data collection. The researcher visited two schools which were not involved in the main study. The purpose of the pilot study was to reveal deficiencies in the design of the proposed study so that they would be addressed before the actual study. A content validity index was determined and from the results it indicated an acceptable index above 0.7 as indicated below.

$$\text{CVI}_{=} \left(\frac{\text{Number of items rated relevant}}{\text{Total number of items in the tool}}\right)$$

$$= 27/31, \text{ Therefore, CVI} = 0.87097$$

### 3.8.2 Reliability of Research Instruments Used

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Leedy, 1999). Reliability in the research is

influenced by random error. When random error increases, reliability decreases. Random error is the deviation from a true measurement due to factors that have not effectively been addressed by the researcher. The research used the test-retest to determine the reliability of the instruments. The test involves administering the same instruments twice to the same group of subjects within a time interval of two weeks. This was to test the scale of internal consistency, that is, the degree to which the items that make the scale hang together if they are measuring the same underlying construct. Triangulation enabled for ensuring that qualitative data was trustworthy.

### 3.9 Data Collection Procedures

A research permit was obtained from the ministry of Education, through the School of Education Moi University, to conduct this study. The researcher sought permission from the County Director of Education (CDE) Uasin Gishu County. The head teachers and teachers of the sampled schools were informed of the purpose and intention to conduct the study, an introduction statement at the top of the questionnaire was used to guide the respondents on how to answer the questionnaire and it gave the assurance of confidentiality. The completed questionnaires were picked after they were fully responded to.

### 3.10 Data Analysis Procedures

The main mode of analyzing the data was descriptive. Inferential statistics was also used to establish relationships of variables. Descriptive statistics involved in computing included frequencies, percentages and means and were presented in tables, charts and graphs. Scores that were above 3 were treated as positive, those below 3 as

negative, while three was interpreted as neutral. As for percentages averages were computed. Those above average were taken as positive while those below were treated as negative. Data analyzed was quantitatively through percentages, mean and frequencies. Qualitative data was analyzed by use of themes, coding similarities in responses and inferences for those responses. The statistical package for social sciences (20.0 SPSS) was used.

**Table 3.3 Data Analysis Procedure table**

| No | Research Objectives | Data Analysis Method | Research Instrument Used |
|---|---|---|---|
| 1. | To determine availability and adequacy of outdoor play space | Use of averages/mean, thematic analysis | Questionnaire, Interview and Observation checklist |
| 2. | To determine utilization of outdoor play space | Averages/mean, thematic analysis | Questionnaire, Interview and Observation checklist |
| 3. | To find out availability and adequacy of outdoor play materials | Tallying and getting mean, thematic analysis | Questionnaire, Interview and Observation checklist |
| 4. | To assess utilization of outdoor play materials | Tallying and use of averages, thematic analysis | Questionnaire, Interview and Observation checklist |

Source: Researcher, 2023

Table 3.3 above is a summary of how data was collected and analyzed for each of the four objectives and shown. For the first objective, the aim was to determine the availability of outdoor play space.

The researcher visited private preprimary schools where teachers were given questionnaires on which they listed available spaces for the different games/activities, as head teachers answered interview questions related to the availability and adequacy of play spaces. Afterwards, the researcher was taken to the playgrounds for triangulation of findings. Based on Objective 1, the researcher then coded number of

play spaces based on the different activities offered by the schools and after quantifying based on number of play activities, came up with means/averages. The second objective looked at utilization of the play spaces. Collection of data involved the use of questionnaires which sought to find out the different play activities happening in the different preprimary schools. These were tabulated based on sizes of play spaces per school.

Interview guides enabled for corroboration on sizes of play spaces and also enabled for clarifications about details such as leasing or sharing play spaces from neighbouring public schools. The researcher was also able to go to the fields to confirm the details using an observation schedule for triangulation purposes. Using ranges such as 0.1 – 0.5 acres, 0.51 – 1 acre, and so on, quantitative data was generated that enable for averages to be determined. To determine the third objective which sought to find out the adequacy of outdoor play materials the three data collection instruments were also used. The number of play equipment were tabulated and matched against number of pupils to determine whether the equipment were enough or not. The researcher went to the storage facilities to also confirm usability of equipment so that it is confirmed that the listed play equipment were actually functional.

The data analysis approach used was to match each equipment type against the learners and also count the usable equipment and indicate these as a fraction of the total equipment. The fractions were converted to percentages and averages for analysis. To address objective four which sought to find out how the utilization of outdoor play materials is done the three data collection instruments were also used.

Questions revolved around determining how inadequate play materials are utilized to benefit all learners, and if shifts are used in taking learners to the play spaces. These being open-ended responses expected data was mostly qualitative.

The various responses were grouped according to themes and related responses given categories based on the Likert Scale. The scale was a three-point scale of *strongly agree, agree,* and *strongly disagree*. These responses generated data that could be tallied and analyzed thematically. Qualitative data also arose in the process of using interview schedules and observation checklists where inferences would be drawn from respondents' disposition when responding to certain questions or from what was actually observed more than just what was said. These data were categorized in themes such as enthusiasm when using outdoor play equipment by learners, teachers' willingness to improvise and/or repair broken down equipment and so on. Based on the themes and coding, some responses were picked and cited verbatim as will be seen in Chapter 4 in italics.

### 3.11 Scoring of the questionnaire

A three-point Likert Scale was used for scoring section B of the questionnaire. Kothari (2003) asserts that likert scales are developed by utilizing item analysis approach wherein, a particular item is evaluated on the basis of how well it discriminates between those persons whose total score is high and those whose total score is low. The likert scale consists of a number of statements which express either a favorable or unfavorable attitude of the given object of which the respondent indicates his/her agreement. Each response is given a numerical score indicating its

favorableness or un-favorableness. Positive scores will therefore be scored five marks each for strongly agree (SA) down to one for strongly disagree (SD) as shown below:

| SA | A | SD |
|---|---|---|
| 5 | 3 | 1 |

Responses to the open- ended items was classified into themes, and like the closed-ended items, they were coded and inputted in the Statistical Package for the Social Sciences (SPSS) data editor. The responses to the closed ended items of the questionnaire was also coded and analyzed using the SPSS.

### 3.12 Analysis of data from the Interview Schedule

The responses to the open-ended items were grouped into themes, coded and entered into the SPSS which was used to obtain means and percentages. Responses to the questions arranged in themes were grouped and frequencies generated that provided the data for means and percentages alluded to.

### 3.13 Ethical issues

According to Kombo and Tromp (2006), researchers whose subjects are people or animals must consider the conduct of their research and consider the ethical concerns associated with conducting the research.

This study involved human being that is teachers and preschool children therefore the researcher ensured that the data collection process did not cause any physical or psychological harm to the research participants. The researcher also had to seek the consent of teachers before starting to collect any data from them. The researcher had

to tell the truth as to why she needed to collect that data and the purpose of the study. The researcher had to treat certain information gathered from the research participants with confidentiality. This involved not writing the participants names. The information collected from the various schools was only used for the purpose of the research but not for any other purpose as another way of ensuring confidentiality.

### 3.14 Summary

This chapter described the procedures that were followed in conducting the research; the steps to be pursued in conducting the study were described in detail; the instruments to aid in the collection of data were outlined and the procedures for analyzing the data highlighted.

Triangulation was employed when using the research tools for purposes of confirmation of responses. This enabled for cross-checking the responses on questionnaires, interview schedules and from observation charts as a way of maintaining reliability and validity of collected data.

# CHAPTER FOUR

# DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

## 4.0 Introduction

This chapter discusses the interpretation and presentation of the findings. The purpose of the study was to assess the availability and utilization of outdoor play environment for teaching and learning in private preprimary schools in Uasin Gishu County, Kenya. The study presented the findings of the study by use of frequency tables and figures for quantitative data and themes for qualitative data. The findings were intended to answer the study's research questions. Data collected were reported and summarized in form of tables and figures and qualitative analysis done in prose.

## 4.1 Demographic Information of respondents

The study aimed to establish the general information about the respondent. The study used this information to base the study findings on the experience of the respondents and familiarity of the respondent to the information that the study sought.

### 4.1.1 Gender of the respondents

The respondents sampled comprised of both private pre-primary centers teachers in Uasin Gishu County. The question of gender was considered important as it could help to get a balanced view from both genders. Results are presented in figure 4.1 below.

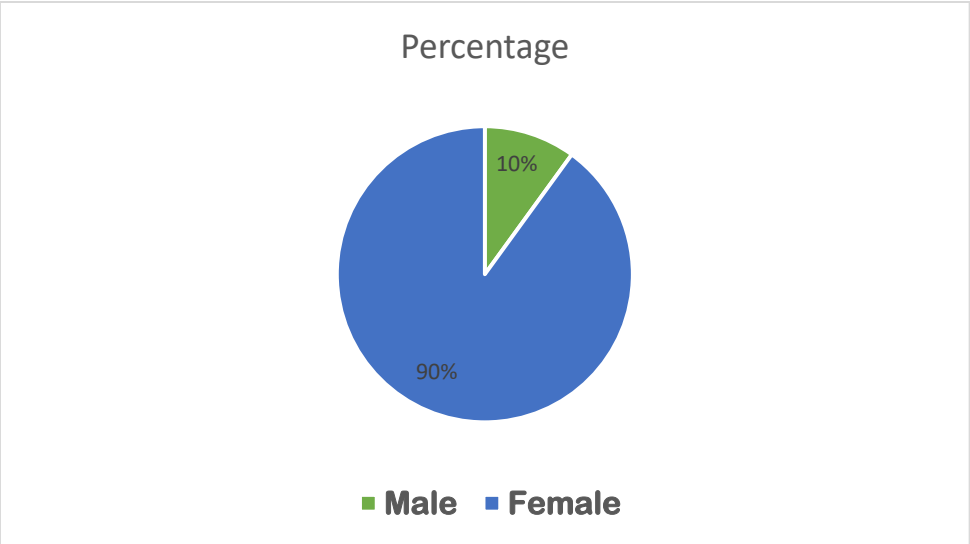


**Figure 4.1: Gender of the respondents**

The findings (fig 4.1) showed that there were more female pre-primary teachers (90%) than male teachers 10%. This indicated a lot of disparities in favour of the female. Though this is the fact about most of the preschool centers it does not reflect a good picture towards the achievement of not only the constitutional requirement but also on the Millennium Development Goals of the whole world. Similar to this study, Mungai (2016) assessed the effect of the quality of early childhood education on the primary school preparedness of preschool students in Nairobi County, Kenya, and found that 97.7% of preschool teachers were female and 2.6% were male. According to Philip's (2019) findings, 74.3% of preschool teachers who participated in this survey were female, while just 25.7% were male. This study concurs with the conclusion that there are more female preschool teachers in Uasin Gishu County than male ones. This information is also consistent with the findings of this study and Hedlin and Berg (2013), who reported that there are more female preschool teachers than male preschool teachers in Sweden and Turkey. Both the government and the

preprimary stakeholders must work very hard to ensure that this state of affairs is changed. The males must be encouraged to take pre-primary teaching responsibility and not to rely on administration of the preprimary centers alone. On the other hand, females should be encouraged to avoid taking only the teaching jobs in the preprimary centers but also to take administration jobs in these centers. This will go a long way in enhancing equality in our country and in the whole world at large.

### 4.1.2 Position held in the preschool

The study further aimed to establish the position held in the preschool by the teachers and head teachers. The position held in the preschool is shown in figure 4.2 below.

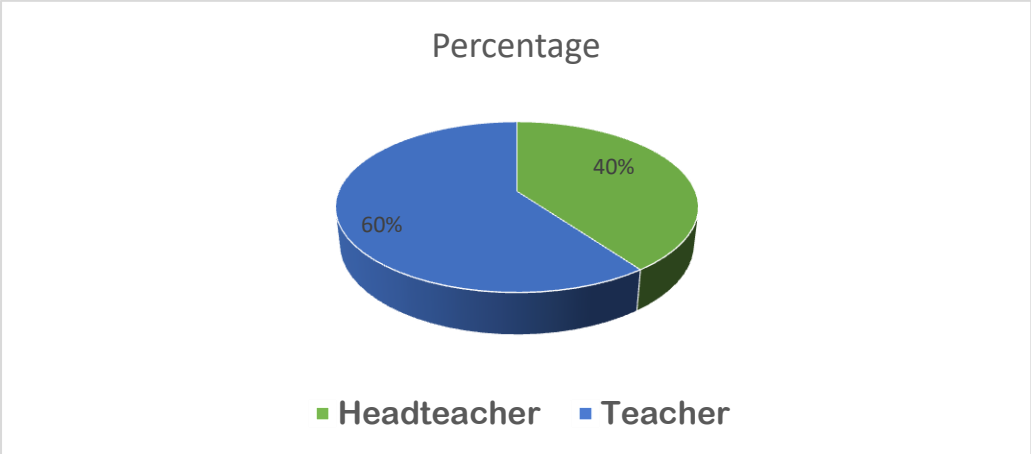


**Figure 4.2: Position held in the preschool**

According to the results presented in figure 4.1 showed that majority the respondents 60% were teachers while 40% were head teachers.

### 4.1.3 Age of the Respondents

The study further aimed to establish the age category of the respondents. Table 4.1 shows the results of the study.

**Table 4.1: Age of the respondents**

| Age | Frequency | Percentage |
|---|---|---|
| Below 20 years | 60 | 60 |
| 21-29 years | 36 | 36 |
| 30-39 years | 12 | 12 |
| 41-50 years | 4 | 4 |
| **TOTAL** | **100** | **100** |

Source: Survey Data, 2023

From the study 60% of the respondents aged were aged below 20 years, 36% of aged 21-29 years, 12% were aged between 30-39 years, while 4% were aged below 41-50 years. This depicts that majority of private preprimary centers teachers in Uasin Gishu were aged between 21-29 years as shown by a total of 36% within the categories which means that majority of the preschool teachers are mature enough to handle preschool children age. At this age bracket, teachers are full of energy and are very innovative enough to supervise and instruct children. This study's findings are consistent with those of Philip's (2019), who revealed that 2.22 % of preschool teachers are between the ages of 36 and 45, while 61.11 % are between the ages of 25 and 35. While evaluating the role of playground amenities on preschool children's participation in outdoor play activities in Mombasa County, Kenya, Wijenje & Waithaka (2018) found that almost half (47.6%) of preschool teachers were between the ages of 20 and 29. This finding is also consistent with this study, indicating that at

this age, teachers are agile and physically active and, as a result, exude a great deal of energy when dealing with preschoolers in all aspects of their education, including outdoor play activities.

### 4.1.4 Level of Education

The study further aimed to establish the Level of Education of the respondents. Figure 4.3 shows the results of the study.

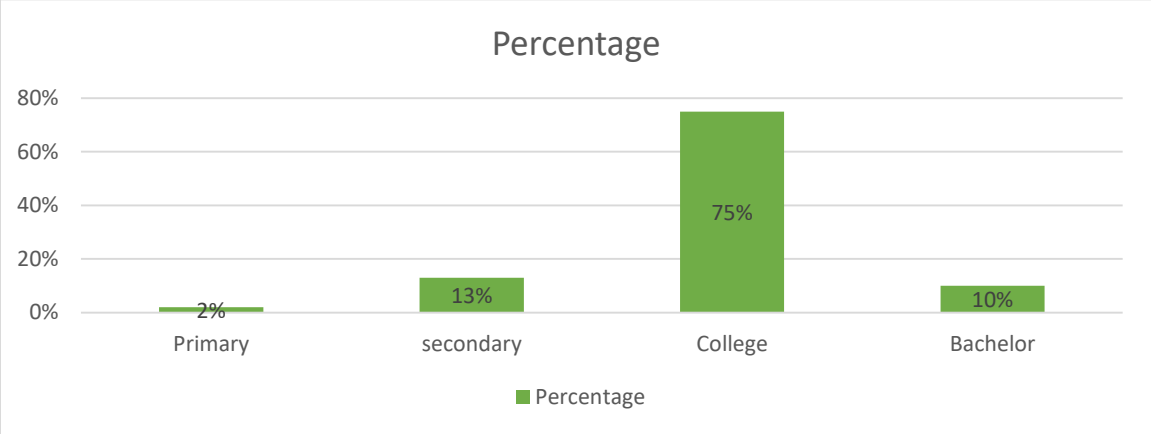


**Figure 4.3: Level of Education**

The findings showed that 75% preprimary teachers who were the majority had college level of education, 13% had secondary certificate, 10% had bachelors' qualification while 2% had primary certificate. This means that they had met the requirement of being preprimary teachers. It also means that all of them had the capabilities to handle the preprimary children with a lot of ease. This study's findings were comparable to those of Ochanda (2015), who found that 66.67% of teachers have a certificate in Early Childhood Education and 33.33 % have Diploma Certificates in Early Childhood Education. Ochanda's study examined the effect of play equipment on preschoolers' participation in outdoor play activities in Suba East Division, Migori

County. The preprimary teachers therefore had the capability to give favorable response to this study since they were academically qualified for the job. This finding is further supported by studies from other regions of Kenya, such as Kiambu (Wangui, 2013) and Kilifi (Ntondwe, 2017), which also indicate that the majority of preschool teachers hold a qualification in early childhood education. This resemblance is due to the fact that the national government, in conjunction with county governments, has been funding tertiary institutions to train preprimary teachers. This indicates that a large number of qualified preschool teachers are available for teaching positions.

### 4.1.5 Duration of Operating In Preschool Center

The duration of operating in the preschool center of the respondents in their current locations was examined. Duration of stay in a work location can be important in explaining the period over which someone has stayed in a certain location to observe things that are happening in that location and give reliable results. The findings are presented in figure 4.4

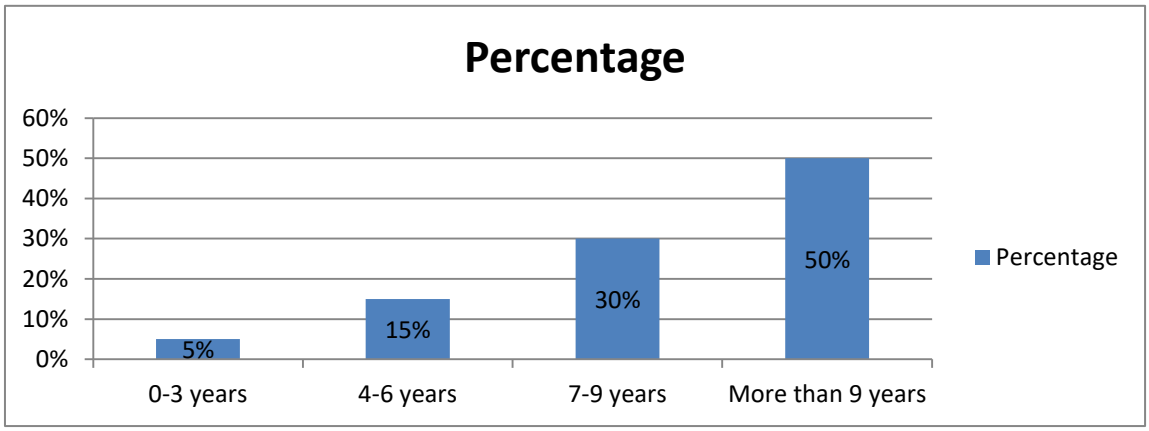

**Figure 4.4: Duration of operating in preschool Center**

Findings showed that 50% of preprimary teachers had operated in preschool center for more than 9 years, 30% of preprimary teachers had operated in preschool center for 7-9 years, 15% had operated in preschool for 4-6 years while 5% had operated in preschool for 0-3 years. This study's findings were consistent with those of Wijenje and Waithaka (2018), who found that almost half of the teachers (48%) have between four and ten years of experience as preprimary teachers. In addition, Mungai (2016) found that of the preschool teachers in Nairobi County, Kenya, 84.5% had taught for a minimum of 5 years prior to working with younger students. This demonstrates that the teachers have a good deal of experience between them. The findings showed that most of the teachers had taken periods of more than three years in their stations of work and had therefore observed factors dealing with availability and utilization of outdoor play environment for learners' holistic development in private pre-primary schools. According to the findings of Ochanda (2015), 61% of the teachers had worked as preprimary educators for at least one to five years, 33.33 percent of the teachers had experience ranging from six to ten years, and 5.55% of the educators had sixteen to twenty years of teaching experience. This finding lends credence to the research conducted by Mweru (2012), who reported that the majority of preschool teachers in Kenya had a relatively limited amount of classroom experience. It's possible that this is because preschool teachers are leaving their classroom roles in search of work in other industries where they can earn a higher salary.

### 4.1.6 Number of Teachers in the School

The study further aimed to establish the number of teachers in the school. Figure 4.5shows the results of the study.

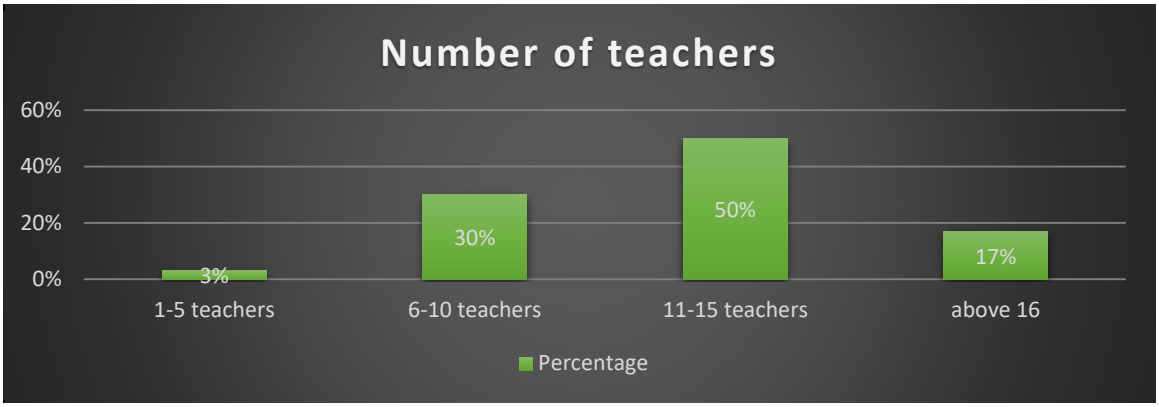


**Figure 4.5: Number of teachers in the school**

Findings showed that 50% of the preschool centers had 11-15 teachers, 30% of the preschool centers had 6-10 teachers, 17% had 16 and above teachers while 3% of preschool center had 1-3 teachers. The findings showed that most of the preschool centers had 11-15 teachers. This shows that the preschool centers in Uasin Gishu County, Kenya had enough teachers.

### 4.1.7 Adequacy of Playing Materials

The study further aimed to establish if playing materials were adequate in the preschool centers. Figure 4.5 shows the results of the study.

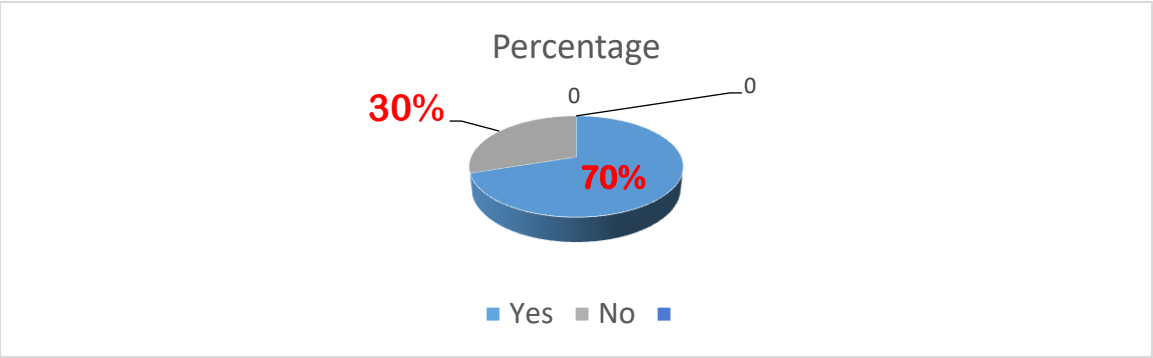


**Figure 4.6: Adequacy of Playing Materials**

The findings revealed that most of the preschool centers 70% had adequate materials while 30% did not have. This study's findings concur with those of Philip (2019), who found that 74.6% of teachers reported that there were sufficient play resources in their schools, but 25.4% of sampled teachers believed that there were insufficient play materials in preprimary Centers in Kwale County, Kenya. Further this study's findings concur with those of Ochanda (2015), who found that many preschools in her sample had sufficient play resources. From Ochanda's study, it was determined that preschoolers with greater access to play equipment are more interested in outdoor play activities and the study also emphasized the importance of providing children with a diversity and abundance of playthings. Children are able to engage in more meaningful outdoor play activities when they have access to different play items.

## 4.2 Availability of play space

Teachers were asked to assess the availability and adequacy of outdoor play area in private preprimary schools, as well as its impact on holistic development. The responses are shown in Table 4.2.

**Table 4.2: Availability of outdoor play space**

| Adequacy of play space | Available and adequate | Available but not adequate | Not Available | N |
|---|---|---|---|---|

| | F | % | F | % | F | % | 223 |
|---|---|---|---|---|---|---|---|
| Paved Area | 47 | **21** | 56 | **25** | 120 | **54** | 223 |
| Play House | 42 | **19** | 33 | **15** | 148 | **66** | 223 |
| Music Area | 45 | **20** | 79 | **35** | 99 | **45** | 223 |
| Small Stage | 11 | **5** | 33 | **15** | 179 | **80** | 223 |
| Sitting Benches | 98 | **44** | 88 | **39** | 37 | **17** | 223 |
| Natural area | 78 | **35** | 66 | **30** | 79 | **35** | 223 |
| Grassy Area | 100 | **45** | 101 | **45** | 22 | **10** | 223 |

Source: Survey Data, 2023

From Table 4.2 above it is evident that sitting benches (44), Grassy area (45%) and natural areas (35%) were available and adequate as a play space. However, Paved Area (54%), Play House (66%) Picnic Table (75%), Music Area (44%) and Small Stage (80%) were not available. While assessing the availability of play resources for utilisation of play in EYE curriculum in pre-primary schools in Kericho Sub-County, Mutindi, Omwenga, and Wandende (2020) reported that only 21% of the pre-primary schools indicated the availability and suitability of sand play areas, while 7% reported that the areas were available but insufficient and 66% reported that it was not available in their centres. This investigation yielded comparable results. Philip (2019) established that the availability of play materials, the engagement of teachers, the allocation of time, and the characteristics of play places motivate children to engage in outdoor play activities.

A head teacher reported this on play spaces available, "*Most available and adequate play spaces available in school include sitting benches, grassy area and paved as a play space".*

### 4.3 Utilization of outdoor play space

The study further aimed to establish the utilization of outdoor play space. Table 4.3 shows the results of the study.

**Table 4.3: Level of utilization of outdoor play space**

| | Highly utilized | Utilized | Not utilized | Mean | SD |
|---|---|---|---|---|---|
| Paved Area | 39 | 73 | 11 | 2.32 | 0.75 |
| Play House | 48 | 89 | 86 | 2.17 | 0.78 |
| Music Area | 47 | 76 | 100 | 2.23 | 0.78 |
| Small Stage | 78 | 89 | 55 | 2.01 | 0.80 |
| Sitting Benches | 58 | 81 | 84 | 2.11 | 0.79 |
| Natural area | 131 | 68 | 24 | 1.52 | 0.68 |
| Grassy Area | 161 | 46 | 16 | 1.32 | 0.79 |

Source: Survey Data, 2023

In Table 4.3, the outdoor play environment was counted and grouped for all preprimary schools. Averages were determined by dividing all the different play spaces or equipment by the total number of schools. Some preprimary schools had more than one space giving rise to standard deviations. In reference to Table 4.3, majority of the preschool teacher stated grassy areas and natural areas were highly utilized (Mean=1.32, SD=0.79) and (Mean=1.52, SD=0.68) respectively. Majority further stated that sitting benches were not utilized (Mean=2.11, SD=0.79) while small stage was utilized (Mean=2.01, SD=0.80). Paved area (Mean=2.32, SD=0.75)

and play house (Mean=2.17, SD=0.78) where utilized while music area was not utilized (Mean=2.23, SD=0.78).

This study's findings were consistent with those of Mwatha, Muema, and Munyoki (2017), who, while evaluating the availability and use of play materials, and their impact on the social and emotional development of pre-school children in Kyangwithya zone, Kitui county, found that play space was well utilized. The study concurs with the findings of Mutindi *et al.* (2020) while assessing the utilization of play in preprimary curriculum in preprimary school centers in Kericho Sub-County, where 67% of schools utilized the preprimary school curriculum's available resources. According to them, this demonstrated that not all schools exploited the available resources. According to Goldstein (2012), children need many outside chances to acquire social skills and social abilities.

A head teacher reported this on the level of utilization of play spaces available, *"The highly utilized play space area is grassy area".*

### 4.5 Adequacy of outdoor materials

The study further aimed to establish the availability and adequacy of outdoor materials and its influence on holistic development in private preprimary. Table 4.6 shows the results of the study.

**Table 4.4: Adequacy of outdoor materials**

| **Adequacy of outdoor materials** | **Available and adequate** | | **Available but not adequate** | | **Not Available** | | **N** |
|---|---|---|---|---|---|---|---|
| | **F** | **%** | **F** | **%** | **F** | **%** | **223** |
| Climber/ Ladder | 90 | **40** | 125 | **56** | 8 | **4** | 223 |
| Activity Board/Panel | 70 | **31** | 98 | **44** | 55 | **25** | 223 |
| Swing | 156 | **70** | 49 | **22** | 18 | **8** | 223 |
| Tunnel/ Crawl-through 223 tunnels | 67 | **30** | 89 | **40** | 67 | **30** | 223 |
| Sand Play Area/Sand Box | 99 | **44** | 103 | **46** | 21 | **14** | 223 |
| Slide | 130 | **58** | 70 | **31** | 223 | **11** | 223 |
| Water Play Area | 77 | **35** | 89 | **40** | 57 | **75** | 223 |
| Skipping rope | 182 | **82** | 23 | **10** | 5 | **7** | 223 |
| Balls | 185 | **83** | 33 | **15** | 5 | **2** | 223 |
| Rings | 69 | **31** | 77 | **35** | 77 | **34** | 223 |
| Picnic Table | 10 | **4** | 47 | **21** | 166 | **75** | 223 |
| Bean bags | 99 | **44** | 77 | **35** | 47 | **20** | 223 |
| Trees | 78 | **35** | 88 | **39** | 57 | **26** | 223 |

Source: Survey Data, 2023

From Table 4.4, it is evident thatswing (70%), slide (58%), Skipping rope (82%) and Balls (83%) were available and adequate, Climber/ Ladder (56%) was available but not adequate Water Play Area (75%) and Picnic Table (75%), were not available. This study's findings concur with those of Ochanda (2015) who reported that 5.56 percent of schools have swings, 22.22 percent have slides and climbing frames, and 11.11 percent of schools have merry-go-rounds, tunnels, and sea saws, respectively. 77% of schools own balls, 55.56 % ropes, and 44.44% tyres. The findings of this research also are in agreement with the findings of Philip (2019), who found that one hundred percent of preschools have balls in their facilities. According to the findings of the survey, there were very few preschools that had equipment like swings, hoops, seesaws, and slides.

A study by Wathu, (2016) in Kitui County on preschoolers' socio-emotional development found similar play objects. In this study, children played with swings, balls, ropes, and bean bags most. In addition, Mawere (2015) found that most preprimary schools have swings, slides, and sand-baths. However, Mukiti (2016) found that 40.7% of respondents found changes inadequate and 37% reported that preprimary schools did not have modifications. Only 14% stated the sliding panels were available and appropriate, 8% said they were inadequate, and 78% said they were unavailable.

A head teacher reported this on play materials available and adequacy, "*Most available and adequate play materials in school include swing, slide, skipping rope and balls".*

### 4.6 Utilization of outdoor play materials

In this section, the researcher aimed to establish the utilization of outdoor play materials. Table 4.5 shows the results of the study.

**Table 4.5: Level of utilization of outdoor play materials**

| | Highly utilized | Utilized | Not utilized | Mean | SD |
|---|---|---|---|---|---|
| Climber/ Ladder | 64 | 102 | 58 | 1.96 | 0.74 |
| Activity Board/Panel | 83 | 90 | 50 | 1.98 | 0.76 |
| Swing | 163 | 52 | 8 | 1.32 | 0.79 |
| Tunnel/ Crawl-through 223 tunnels | 78 | 92 | 52 | 2.06 | 0.81 |
| Sand Play Area/Sand Box | 135 | 64 | 24 | 1.62 | 0.69 |
| Slide | 133 | 69 | 22 | 1.60 | 0.78 |
| Water Play Area | 80 | 98 | 44 | 2.02 | 0.76 |
| Skipping rope | 183 | 34 | 6 | 1.29 | 0.68 |
| Balls | 175 | 24 | 4 | 1.30 | 0.72 |
| Rings | 70 | 82 | 70 | 2.34 | 0.83 |
| Picnic Table | 37 | 56 | 130 | 2.52 | 0.79 |
| Bean bags | 88 | 99 | 55 | 2.41 | 0.82 |
| Trees | 68 | 89 | 65 | 2.35 | 0.87 |

Source: Survey Data, 2023

Table 4.5 looked at utilization of the various play spaces and equipment based on the observation schedule. The play areas and equipment were counted for all the preprimary schools in categories of highly utilized, utilized and underutilized. This gave rise to data that is quantified and mean and standard deviation generated for purposes of limited generalization. In reference to Table 4.5, majority of the preschool teacher stated Swing (Mean=1.32, SD=0.79), Sand Play (Mean=1.62, SD=0.69), Slide (Mean=1.60, SD=0.78) Skipping rope (Mean=1.29, SD=0.68) and Balls (Mean=1.30, SD=0.72) were highly utilized. Climber/ Ladder (Mean=1.96, SD=0.74), Activity Board/Panel (Mean=1.98, SD=0.76), Tunnel/ Crawl-through 223 tunnels (Mean=2.06,

SD=0.81), Water Play Area (Mean=2.02, SD=0.76), Rings (Mean=2.34, SD=0.83), Bean bags (Mean=2.41, SD=0.82) and Trees (Mean=2.34, SD=0.87) were utilized. Finally, majority of the responded stated that Picnic Table (Mean=2.52, SD=0.79) was not utilized. The findings of this research also are in agreement with the findings of Philip (2019), who found that one hundred percent of preschools have balls in their facilities. According to the findings of the survey, there were very few preschools that had equipment like swings, hoops, seesaws, and slides. A Kitui County study on preschoolers' socio-emotional development found similar play objects. In this study, children played with swings, balls, ropes, and bean bags most (Wathu, 2016).

A head teacher reported this on the level of utilization of play materials available,

> *"Swing, slide, skipping rope and balls are highly utilized play materials as they are cheap."*

In the analysis of open-ended questions, it came out that various challenges affected teachers in undertaking their roles during children's play. Though this was not expressly sought in the study, it came out as a major determinant of not only availing of play equipment but also utilization. The first challenge was teachers' workload. It came out that the teacher to pupil ratio in most private preprimary schools in Uasin Gishu was way above 1:30 while the recommended ratio is 1:15. This exacted pressure on teachers who preferred using outdoor play time for marking children's work rather than taking the children out. Teachers would also use that time to prepare for the next/subsequent lessons. The effect of this was that learners were denied an opportunity to explore playing with 'unfamiliar' equipment or some children missing out on playing with equipment that were few in supply.

Another challenge identified was inadequate time to attend to classwork and take children for outdoor play. Most small preprimary schools ran their programmes from 8.30am to 12.00noon. The few preprimary schools with organized transport system for their learners seemed to have time to expose the children to a wider variety of outdoor play activities and equipment. A third challenge was the many play equipment in disuse or broken down. Several equipment, (such as swings and slides), had been left abandoned after breaking down without being repaired. Despite the danger of hurting pupils, they seemed to have been forgotten.

From the observations, the available balls were mostly improvised. The analysis of interview schedules from head teachers indicated that they face challenges of lack of, or inadequacy of equipment and resources for children's outdoor play. Observations by the researcher also confirmed this.

# CHAPTER FIVE

# SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter contains summary of the major findings of this research, conclusion based on the findings and recommendations arising from the same findings.

## 5.2 Summary of Findings

This study investigated the availability and utilization of outdoor play environment for learners' holistic development in private preprimary schools in Uasin-Gishu County, Eldoret. Four research objectives were formulated to guide the study.

1. Objective one sought to establish the effect of availability of outdoor play space and its influence on holistic development in private preprimary schools in Uasin-Gishu County.
2. The second objective was to assess the impact of the availability and adequacy of outdoor play materials and its influence on the holistic development of learners in private preprimary schools in Uasin-Gishu County.
3. The third objective was to determine the availability and adequacy of outdoor play materials and its influence on the holistic development of learners in private preprimary schools in Uasin-Gishu County.
4. Last but not least the study sought to assess the utilization of outdoor play material on and its impact on holistic development of pupils in private preprimary schools.

### 5.2.1 Availability of Outdoor Play Space

The study found out that sitting benches (44%), Grassy area (45%) and natural areas (35%) were available and adequate as a play space. However, Paved Area (54%), Play House (66%) Picnic Table (75%), Music Area (44%) and Small Stage (80%) were not available. This implies that the higher the availability of outdoor play space the higher the participation rate in outdoor activities.It emerged that most private pre-primary schools in Uasin-Gishu have limited but adequate outdoor play spaces and this limited learners' participation in various activities.

### 5.2.2 Utilization of Outdoor Play Space

The findings of the study showed that grassy areas and natural areas were highly utilized (Mean=1.32, SD=0.79) and (Mean=1.52, SD=0.68) respectively. Majority further stated that sitting benches were not utilized (Mean=2.11, SD=0.79) while small stage was utilized (Mean=2.01, SD=0.80). Paved area (Mean=2.32, SD=0.75) and play house (Mean=2.17, SD=0.78) where utilized while music area was not utilized (Mean=2.23, SD=0.78). The findings show that there is need to plan properly for outdoor play space so that utilization is maximized. Places reserved for sitting benches could be reduced so that space for more popular activities is increased.

### 5.2.3 Adequacy of outdoor play materials

The findings of the study showed that during outdoor play, children become teachers (77%), Learners, sharing their knowledge and skills to accomplish different tasks or challenges (87%), Develop empathy, as children begin to understand other people's feelings and needs (81%).

Playing outside helps children to develop physically emotionally, cognitively, imaginatively and improve fine and gross motor skills (90%) and they are able to interact with other children teaching them how to take turns, communicate and cooperate with each other (89%). The findings showed that adequate outdoor play materials were available and in enough quantities in the private pre-primary schools that were studied.

### 5.2.4 Utilization of outdoor play materials

The findings of the study showed thatSwing (Mean=1.32, SD=0.79), Sand Play (Mean=1.62, SD=0.69), Slide (Mean=1.60, SD=0.78) Skipping rope (Mean=1.29, SD=0.68) and Balls (Mean=1.30, SD=0.72) were highly utilized. Climber/Ladder (Mean=1.96, SD=0.74), Activity Board/Panel (Mean=1.98, SD=0.76), Tunnel/Crawl-through 223 tunnels (Mean=2.06, SD=0.81), Water Play Area (Mean=2.02, SD=0.76), Rings (Mean=2.34, SD=0.83), Bean bags (Mean=2.41, SD=0.82) and Trees (Mean=2.34, SD=0.87) were utilized. Finally, majority of the respondents stated that Picnic Table (Mean=2.52, SD=0.79) was not utilized. This meant that not all outdoor play materials were being utilized. The pre-primary schools might need to expose learners to all the outdoor play materials or limit the supply of unpopular play materials all the same. Note that qualitative data collected from questionnaires and interview schedules were categorized in themes and their frequencies in terms of similar responses converted into quantitative data that was analyzed using mean and standard deviations.

## 5.3 Conclusions

It is possible to draw the following conclusions based on the findings:

1. Sitting benches, grassy spaces, and natural areas were readily available and provided an acceptable amount of play space. This was in line with objective one which sought to determine availability and adequacy of outdoor play space for teaching and learning in private preprimary schools in Uasin-Gishu County.
2. Grassy areas and natural areas were highly utilized. This was in relation to the second objective which was aimed at determining the utilization of outdoor space for teaching and learning in private preprimary schools in Uasin-Gishu County.
3. A variety of outdoor play equipment were available in adequate numbers for learners though this equipment did not cover all the play activities. Some broken down outdoor play equipment had not been repaired and paused danger to learners. Swings, slides, skipping ropes and balls were available and adequate and swings, sand play, slides, skipping ropes and balls were highly utilized play materials. This is due to the fact that they are inexpensive to purchase, do not take up much space, and do not require a lot of money to fix. It was obvious that most schools did not have some play materials available to them due to the high cost of those materials. This was in relation to objective three which aimed at finding out the availability and adequacy of outdoor play materials for teaching and learning in private preprimary schools in Uasin-Gishu County.

## 5.4 Recommendations

1. This study recommends that preschool learners be provided with more outdoor play spaces and be encouraged to interact more with their outdoor environment as this provides holistic development in near-natural settings.
2. The study recommends that a standard minimum size of a preprimary school is adhered to with set percentages of land-use so that sufficient space for outdoor play is provided. This will reduce the mushrooming of preprimary schools being set up on storey-buildings in residential flats that only provide limited parking space and no designated outdoor play spaces.
3. The study recommends that regular school inspection should be carried out to ensure that children are provided with sufficient numbers of play equipment in safe conditions. Teachers and head teachers could repair faulty ones in good time before they cause accidents during play. This will also expose learners to more play equipment.
4. More time and more creative use of outdoor play material should be explored for use as teaching aids in other learning areas to increase utilization. This would increase exposure to more outdoor activities and games.

## 5.5 Recommendation for further research

This study recommends that further research should be done on:

1. A study should be conducted on the influence of teacher's attitude towards provision of play equipment on preschool children's participation in outdoor activities.

2. A study on the influence of outdoor play activities on children's participation in classroom activities needs to be conducted in order to sensitize preschool stakeholders of the importance of play to learning.

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# APPENDICES

## APPENDIX 1: INTRODUCTION LETTER

Sang Leah Chepchumba

P.O. Box 36

Kitale

Date

Dear Respondent,

**RE: RESEARCH STUDY**

I am a post graduate student of Moi University school of Education. I am pursuing Master degree in Early Childhood. I am currently conducting research on the Availability and Use of Outdoor Play environment on effective learning in private preprimary schools in Eldoret County.

In order to collect data for the study, I hereby request you to be one of the participants in the study. Kindly cooperate and give your honest responses, all information will be treated with confidence and will be used for academic purposes only.

Thanks in advance.

Yours Faithfully,

Sang Leah Chepchumba

EDU/PG/EDH/1004/12

## APPENDIX II: INFORMED CONSENT FORM

Dear respondent,

**RE: REQUEST TO PARTICIPATE IN THE RESEARCH STUDY**

My name is Sang Leah. I am a student of Moi University, pursuing a Master in Early Childhood Education Development (ECD) Course, in the School of Education. I am conducting a research study to fulfill the requirements of my course entitled "***An Assessment of outdoor play material for teaching and learning in private preprimary schools in Uasin Gishu County".***

I would highly appreciate if you kindly agree to participate in the study. The information presented will be entirely for academic and learning purposes and will be treated with utmost confidentiality.

Thank you.

Yours faithfully,

Sang Leah Chepchumba

leahsang09@gmail.com

## APPENDIX III: QUESTIONNAIRE FOR PRESCHOOL TEACHERS

Please tick the appropriate box in the questionnaire where choices are provided.

**Section A: BIO DATA**

1. Gender: Female [ ] Male [ ]
2. Position held in the preschool:

   Head teacher [ ]

   Teacher [ ]
3. State your age?

   Below 20 year [ ]

   21-30 [ ]

   31-40 [ ]

   41-50 [ ]
4. Level of Education:

   Bachelors [ ]

   College [ ]

   Secondary [ ]

   Primary [ ]
5. How long has your preprimary school been in operation?

   0-3 years [ ]

   4-6 years [ ]

   7-9 years [ ]

   More than 9 years [ ]
6. State the number of teacher in your school

   1-5 [ ]

6-10 [ ]

11-15 [ ]

Above 16 [ ]

7. Does this school have adequate play materials?

Yes ( ) No ( )

**SECTION B: AVAILABILITY AND ADEQUACY OUTDOOR PLAY SPACE AND ITS INFLUENCE ON HOLISTIC DEVELOPMENT IN PRIVATE ECD CENTERS**

Below are availability of adequacy outdoor play space and its influence on holistic development in private ECD centers tick the convenient response by using the scale of 1 to 3(Where 1 - **Available and adequate**, 2 - **Available but not sufficient**, 3 - **Not Available**.)

| **Availability of Adequacy outdoor play space** | **Available and adequate** | **Available but Not sufficient** | **Not Available** |
|---|---|---|---|
| Paved Area | | | |
| Play House | | | |
| Music Area | | | |
| Small Stage | | | |
| Sitting Benches | | | |
| Natural area | | | |
| Grassy Area | | | |

**SECTION C:UTILIZATION OF OUTDOOR PLAY SPACE FOR LEARNERS' HOLISTIC DEVELOPMENT**

Tick the convenient response by using the scale of 1 to 3 (Where 1- Highly utilized, 2 -Utilized, 3 -Not Utilized). Stating to what extend on how its utilized

| **Availability of Adequacy outdoor play space** | **Highly utilized** | **Utilized** | **Not utilized** |
|---|---|---|---|
| Paved Area | | | |
| Play House | | | |
| Music Area | | | |
| Small Stage | | | |
| Sitting Benches | | | |
| Natural area | | | |
| Grassy Area | | | |

**SECTION D: INFLUENCE OF PLAY SPACE ON THE HOLISTIC DEVELOPMENT OF LEARNER**

Tick the convenient response by using the scale of 1 to 3 (Where 1-Strongly agree, 2 - Agree, 3 -Not Agree). Stating to what extend on how its utilized

| | **Strongly Agree** | **Agree** | **Strongly Disagree** |
|---|---|---|---|
| Play gives children an opportunity to attempt new things without the fear of being wrong and failing, | | | |
| Better understanding of this method of holistic development of children and to even use it with your own children | | | |
| Create a fun and interactive environment. | | | |
| Ask them open-ended questions | | | |
| Recognize your child's interests | | | |
| Encourage their dreams and visions | | | |

**SECTION E: AVAILABILITY AND ADEQUACY OF OUTDOOR PLAY MATERIALS AND ITS INFLUENCE ON THE HOLISTIC DEVELOPMENT OF LEARNERS**

| **Availability of Adequacy outdoor materials** | **Available and adequate** | **Available but Not sufficient** | **Not Available** |
|---|---|---|---|
| Climber/ Ladder | | | |
| Activity Board/Panel | | | |
| Swing | | | |
| Tunnel/ Crawl-through 223 tunnels | | | |
| Sand Play Area/Sand Box | | | |
| Slide | | | |
| Water Play Area | | | |
| Skipping rope | | | |
| Balls | | | |
| Rings | | | |
| Picnic Table | | | |
| Bean bags | | | |
| Trees | | | |

**SECTION F: UTILIZATION OF OUTDOOR PLAY MATERIAL ON WILLINGNESS OF LEARNERS TO PERFORM WHAT THEY HAVE LEARNED AND ITS EFFECT ON HOLISTIC DEVELOPMENT**

Tick the convenient response by using the scale of 1 to 3 (Where 1- Highly utilized, 2 -Utilized, 3 -Not Utilized). Stating to what extend on how its utilized

| **Availability of Adequacy outdoor play space** | **Highly utilized** | **Utilized** | **Not utilized** |
|---|---|---|---|
| Climber/ Ladder | | | |
| Activity Board/Panel | | | |

| | | | |
|---|---|---|---|
| Swing | | | |
| Tunnel/ Crawl-through 223 tunnels | | | |
| Sand Play Area/Sand Box | | | |
| Slide | | | |
| Water Play Area | | | |
| Skipping rope | | | |
| Balls | | | |
| Rings | | | |
| Picnic Table | | | |
| Bean bags | | | |
| Trees | | | |

**SECTION G: INFLUENCE OF PLAY MATERIALS ON THE HOLISTIC DEVELOPMENT OF LEARNER**

Tick the convenient response by using the scale of 1 to 3 (Where 1-Strongly agree, 2 - Agree, 3 -Not Agree). Stating to what extend on the role.

| **UTILIZATION OF OUTDOOR PLAY MATERIAL** | **Strongly Agree** | **Agree** | **Strongly Disagree** |
|---|---|---|---|
| The outdoors provides a learning environment that is much less formal than the classroom, | | | |
| Encourage even shy learners to speak aloud and start joining in. | | | |
| Outside storytelling stimulates the imagination too. Re-create fictional worlds from stories by staging simple role plays | | | |
| Lower Body Mass Index | | | |
| Improved Motor Skills | | | |
| Limiting a child's risk of becoming obese has many long-term health implications. Obese kids are at higher risk | | | |

## APPENDIX IV: CHECKLIST

**OBSERVATION CHECKLIST Observer: _____**

**Date: _____**

| ***Equipment/ Area*** | **Available and adequate** | **Available but Inadequate** | **Not Available** |
|---|---|---|---|
| Climber/ Ladder | | | |
| Activity Board/Panel | | | |
| Swing | | | |
| Tunnel/ Crawl-through tunnel | | | |
| Sand Play Area/Sand Box | | | |
| Slide | | | |
| Water Play Area | | | |
| Skipping rope | | | |
| Paved Area | | | |
| Balls | | | |
| Play House | | | |
| Rings | | | |
| Music Area | | | |
| Picnic Table | | | |
| Small Stage | | | |
| Bean bags | | | |
| Sitting Benches | | | |
| **NATURAL AREA** | | | |
| Grassy Area | | | |
| Trees | | | |

## APPENDIX V: INTERVIEW SCHEDULE FOR HEADTEACHER

i. What play space are available for outdoor play in you school?

ii. What is the extent of utilization of the available play space in your school?

iii. Which play materials are available for outdoor play in you school?

iv. What is the extent of utilization of the available play materials in your school?

# APPENDIX VI: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 916866

Date of Issue: 05/August/2021

RESEARCH LICENSE

This is Certify that Ms.SANG LEAH CHEPCHUMBA OF Moi University, has been licensed to conduct research in Uasin Gishu on the topic:AVAILABILITY, ADEQUACY AND UTILIZATION OF OUTDOOR PLAY ENVIRONMENT FOR TEACHING AND LEARNING IN PRIVATE PRE-PRIMARY SCHOOLS IN UASIN GISHU COUNTY, KENYA UASIN GISHU COUNTY.

for the period ending : 05/September/2021.

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***SANG LEAH CHEPCHUMBA***

**EDU/PG/EDH/1004/12**

In recognition for passing the University's plagiarism

Awareness test for thesis :AVAILABILITY, ADEQUACY AND UTILIZATION OF OUTDOOR PLAY ENVIRONMENT FOR TEACHING AND LEARNING IN PRIVATE PRE-PRIMARY SCHOOLS IN UASIN GISHU COUNTY, KENYA with a similarity index of 9% and striving to maintain academic integrity.

Awarded by:

Prof. Anne Syomwene Kisilu
CERM-ESA Project Leader Date: 24/07/2023