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SUSTAINABLE AVAILABILITY AND USE OF OUT DOOR PLAY MATERIALS AND EQUIPMENT FOR INSTRUCTION IN PUBLIC EARLY CHILDHOOD DEVELOPMENT AND EDUCATION CENTRES IN SOTIK SUB-COUNTY, KENYA

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ABSTRACT

The purpose of this study was to investigate availability, adequacy, use and maintenance of outdoor play materials and equipment in public Early Childhood Education & Development (ECDE) Centers in Sotik Sub-County, Bomet County. This study was guided by the following research objectives: to find out the availability of play materials and equipment in the schools; to investigate the use of existing play materials and equipment; to examine the maintenance/sustainability of existing plays materials and equipment. To achieve these objectives, the study used a descriptive survey design with a mixed methods methodology for collecting the primary data. Public ECD Centers in Sotik Sub-County were sampled through stratified and simple random sampling techniques. The major findings were that different kinds of play materials are available to different public ECDE Centers. Some of these materials included; slides, swings, see-saw, ladders and platforms, climbers, balls, beam balance, tyres, beanbags and hoops. On use, the study found that the available play materials were in use although significant numbers were not available or not in use due to their poor working conditions. The study also found that the use of outdoor play materials was helpful to the children's holistic development. On availability, the study found that although majority of the play materials and equipment were available they were not adequate. On maintenance, the study found that almost all the respondents indicated that play materials with moveable parts such as swings and sea-saws were being maintained by greasing and lubrication, while others were being maintained by washing. The study recommended that the school stakeholders such as school administration, government and parents should examine the various ways of ensuring adequacy of play materials in ECDE Centers. More essentially, the government through the Ministry of Education should come up with programs and policies of providing adequate equipment and encourage the use of play materials in ECDE Centers.

Keywords*: Outdoor Play Materials, ECDE Centers.*

INTRODUCTION

Play is a universal phenomenon with a pervasive and enduring presence in human history. The need for a holistic development of children is appreciated all over the world (Berry 2012). Play is needed for healthy development for a child given that numerous researchers have documented that 75 percent of brain development occurs after birth. According to Clayton, & Forton, (2011) play helps with that development by stimulating the brain through the formation of connections between nerve cells. Therefore, understandings of play and play materials, or what counts as play materials vary enormously across different ECCE settings and is influenced by a range of factors including: historical and cultural traditions and values; dominant political discourses; whether services are located within the formal education sector or within the care sector; the age to which early childhood curricula or guidelines are targeted; as well as regulatory frameworks (Braidekamp, 2012).

In Scandinavian countries, play material and equipment is viewed both as early childhood content and method, the means through which children conceive and make sense of the world, feel in control, express their views, analyse experiences and solve problems. Here, children's own culture, free play and friendship are afforded high status in early childhood education (Dowda, et al 2009). In contrast, in countries where the pre-primary or readiness for school model of ECCE dominates (Ireland and the UK have been cited as pertinent examples by Berry (2012), play and play materials tends to be curricularised with an associated need to identify specific purposes or functions of play in children's learning and development which are often articulated in terms of specific academic subjects.

In Canada, play-based learning through appropriate play materials in early childhood has been recognized as a valuable, effective, and appropriate pedagogy and much good work has been done on the process of playful approaches to early learning. Indeed, the play space for many children has most expanded indoors, in particular, within their own bedrooms where indoor play technologies such as television, video, DVDs, game consoles and computer games have proliferated (Clayton, &Forton, 2011).

In South Africa, most of the Early Childhood Education & Development centers have appreciated the role of play and appropriate play materials in child development since children increase their problem-solving abilities through games and puzzles. According to a research done in Malawi on the importance of play among the Early Childhood Education & Development Centers learners, children can strengthen their language skills and gain an understanding of size, shape, and texture through play. It helps them learn relationships as they try to put a square object in a round opening or a large object in a small space (Braidekamp, 2012). Books, games, and toys that show pictures and matching words add to a child's vocabulary. Play with other children helps a child learn how to be part of a group. Play allows a child to learn the skills of negotiation, problem solving, sharing, and working within groups. Children practice decision-making skills, move at their own pace and discover their own interests during play.

In analyzing the particular position of play and play materials in early childhood education discourses in Uganda, it is noteworthy that serious public policy attention to children's play has been a relatively recent phenomena compared to other countries (Berry 2012). However, the large number of reports and policy documents published in the broad field of early childhood since the mid-1990s suggests that much greater attention has been paid to early childhood in general in recent years, and with it, consideration of the place of play in young children's learning and development In Kenya, Despite the GoK's commitment to ensuring safe and secure play environments for the Kenyan child, many pre-school playgrounds, especially in the rural, urban, suburban and slum areas, experience stigmatic safety problems and constraints related to inadequate appropriate play materials, sub-standard, inappropriate or inadequate, and poorly constructed or maintained playgrounds equipment and the most basic play materials (MOE, 2006).

Outdoor play and physical activities are important processes, which foster mental physical, social, emotional development and creative activities. Physically, the small and large muscles are strengthened during outdoor activities. These activities enhance control and coordination of the muscles of various body parts. Children express themselves through movement and this gives a chance to release some of their emotional feelings. Physical activities demand movement and children derive a lot of pleasure when they master new skills.

In addition, outdoor play and physical activities give children an opportunity to interact among themselves and thus develop social skills. They set simple rules for their games in which each of them is expected to obey. This forms the development in children enabling them to live the society with rules that must be obeyed.

As they play, children exercise their bodies. These exercises facilitate blood and oxygen circulation for healthy and strong growth and development. During play, children create physical movements, games, dances and songs which teachers can use to identify unique talents in individual children. The teachers should therefore endeavor to help learners develop and realize their potential for optimum growth.

In physical outdoor activities, both concepts and skills are tied up within the activities hence the use of the local materials and environment should be encouraged in the provision of the relevant play materials and equipment. We should adapt activities and play materials to cater for learners with special needs in order to enable such children play with their counterparts. The physical/ psychomotor activities should be theme based. Directed activities should be provided to enable children develop necessary eye-hand coordination skills.

In Kenya, the objectives of early childhood development should:

i. Provide education geared towards the development of the child's mental and physical capabilities.

ii. Enable child enjoy living and learning through plays, foster the child exploration and

discovery

iii. Identify the child with special needs and align him or her with existing services.

iv. Help children to acquire both large and small motor skills development and strengthen their body muscles.

v. Foster development of children's accuracy and estimation skills.

vi. Give children an opportunity to relax and enjoy through pleasurable activities.

Play activities involve the child's total self and use all forms of energy. Play has been proved to be the single most important provider of relief and balances the child's mental, physical and emotional status. Play is therefore as necessary to a child as the food. It has been argued that play gives a child the reason for existence and also gives assurance of immorality. Through play a child develops imagination acquires skills of body and mind, is able to understand, sympathize and empathize, acquires competition skills and learn how to cope with failure and success is able to persevere i.e. acquisition of the ability to struggle towards a desired end, understand when it is necessary to assert oneself and when to forfeit self-interest for the sake of others, acquires healing for hurts and sadness, releases pent-up urges towards self-expression and lastly provided with a complex awareness of the world and her or his ability in relation to its growth among the learners.

There are some others factors which deny children from playing for instance insecurity if the learners are not secured in their places of play, they then to avoid playing. Also lack of space for playing for example learners who are in urban centers does not have places to play. Like malnutrition in early childhood poses long term adverse effects some of which are disastrous and irreversible. Some studies have established that inadequate play experiences may lead to poor imagination and creativity, nervousness and lack of self-confidence, irritability and intolerance, idleness and laziness, craving for entertainment, poor problem solving skills, lack of underdevelopment of empathy and lastly imbalanced growth i.e. stunt

The notion of pre-school as safe havens for children, as recommended by WCEFA (1990) and WEF (2000), is thus shattered by feelings of inadequacy and insecurity emanating from these constraints. These experiences result to alienated learners, low staff morale, reduced activity time, distraction from learning and, health problems for teachers and the preschoolers (Dowda, et al 2009). Children then spend a lot of their time and energy dwelling on their fears rather than learning tasks and lack confidence to actively engage in play activities. In Sotik sub-county, Early Childhood Education & Development playgrounds and play equipment are within the public and private preschools. They are characterized by inadequate play spaces, inadequate or poorly designed and maintained equipment's and surfaces that restrict children's spontaneous play. Although children continue to participate in outdoor activities, these challenges may affect their optimal participation and performance in outdoor activities. It is against such a background that this study tries to investigate the

availability of play materials and equipment on learning in Early Childhood Education & Development centers in Sotik Sub-County, Bomet County.

STATEMENT OF THE PROBLEM

Adequate and appropriate play materials form an integral component of children's participation in outdoor activities. A study by the International Institution for Educational Planning (IIEP, 2004) shows that ECD learner's success relies on the environment in which he or she is learning and the play materials she/he is interacting with. Part of the explanation for this link is the mediating influence of school climate, pre-school playground safety policies and programs, teacher professionalism, time spent on activities, the leadership and management of the school. However, this ideal link is constrained by a few gaps existing in most preschool playgrounds and play materials in Kenya (whether public, private, urban or rural). Despite the significant investments in education including school infrastructure, teacher recruitment and training, learning outcomes for primary school pupils in Kenya`s public schools is still dismal. Uwezo Kenya has been conducting a country wide annual learning assessment report since the year 2009 and yet the performance is not getting any better.

According to African`s largest annual citizen assessment on learning outcomes. Kenyan children between six and sixteen are not mastering the required skills in literacy and numeracy from standard three to standard eight.The poor performance seen in learners from class six to eight shows that 12% of the learners cannot be able to calculate simple class two division. Also about 14% of these learners can neither read a simple English nor Kiswahili story book. Surprisingly 20% of class six children cannot tell the meaning of the colours of the Kenya`s flag.

According to the Uwezo report of 2012, two out of three children fail to pass a simple test in English, Kiswahili or numeracy skills set at the standard two level. These are worrying statistics that should concern all stakeholders and are attributed to students having a poor foundation in ECD. Availability, adequacy, use and maintenance of play materials and equipment and their contribution for learning has not been given much attention in terms of research and much of the data has to be sourced from researches done in developed countries like the USA and Britain where early childhood development, care and education have been given a lot of importance. Government policy documents on Early Childhood Education & Development centers make no direct mention on provision of play materials and such information has therefore to be inferred from these documents. The Early Childhood Development institutions are also characterized by poor physical conditions showing deferred maintenance or unperformed planned maintenance, repairs, replacement and renewal. These stigmatic constraints can be linked to lack of resources, perceived low priority and negative attitude about children's play or deferral of the activity. There is a paucity of studies on the availability, adequacy, use and maintenance of play materials and equipment on learning among learners in public ECD centers in Bomet County.

PURPOSE OF THE STUDY

The purpose of this study was to investigate the availability, adequacy, use and maintenance of outdoor play materials and equipment for instruction in public Early Childhood Education & Development Centers in Sotik Sub-County, Kenya.

RESEARCH OBJECTIVES

The research was guided by the following research objectives;

i. To find out the kinds of outdoor play materials available in the public Early Childhood Education & Development Centers.

ii. To establish the adequacy of the existing outdoor play materials available.

iii. To investigate the use of the existing outdoor plays materials for instruction in public Early Childhood Education & Development Centers.

iv. To determine if public ECD centers maintain their play materials.

RESEARCH QUESTIONS

The study sought to answer the following research questions:

i. What kinds of outdoor play materials are available in public Early Childhood Education & Development Centers?

ii. How adequate are the outdoor play materials in public Early Childhood Education & Development Centers?

iii. How do teachers use the outdoor play materials for instruction in Early Childhood Education & Development Centers?

iv. How do public Early Childhood Education & Development Centers maintain their existing outdoor play materials?

THEORETICAL FRAMEWORK

Social learning theory (Albert Bandura, 1977) posits that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement. In addition to the observation of behavior, learning also occurs through the observation of rewards and punishments, a process known as vicarious reinforcement. The theory expands on traditional behavioral theories, in which behavior is governed solely by reinforcements, by placing emphasis on the important roles of various internal processes in the learning individual.

In the classroom set-up, many classroom and teaching strategies draw on principles of social learning to enhance students' knowledge acquisition and retention. For example, using the technique of guided participation, a teacher says a phrase and asks the class to repeat the phrase, or use appropriate learning materials and equipment in the case of early childhood education to enhance learning among the learners. Thus, learners both imitate and reproduce

the teacher's action, aiding retention. An extension of guided participation is reciprocal learning, in which both learner and teacher share responsibility in leading discussions. Additionally, teachers can shape the classroom behavior of learners by modeling appropriate behavior and visibly rewarding students for good behavior. By emphasizing the teacher's role as model and encouraging the learners to adopt the position of observer, the teacher can make knowledge and practices explicit to learners, enhancing their learning outcomes through play children learn a lot through interactions with each other, with the teachers and also with the outdoor play materials for instance Swings, Slides, Sea-saw, Ladders and platforms, Climbers, Balls, Beam balance, Tires and Bean bags.

CONCEPTUAL FRAMEWORK

INDEPENDENT VARIABLES (IV)

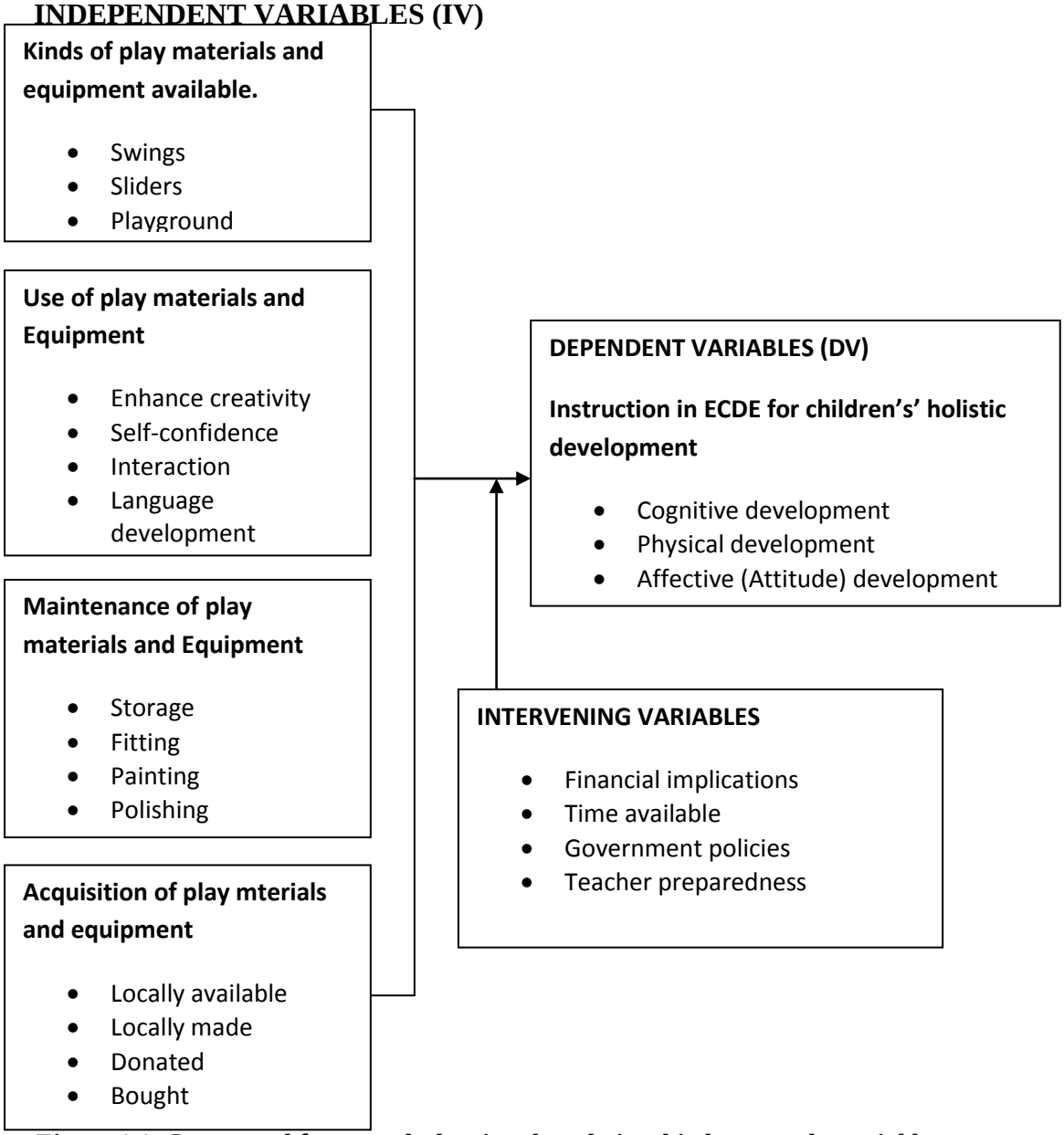

Figure 1.1, Conceptual framework showing the relationship between the variables.

The conceptual framework shows the relationship between the variables. It depicts that type of play materials and equipment, their use, maintenance and acquisition (independent variables) affect instruction in ECDE domain through cognitive, affective (attitudes) and physical domain. However, this relationship only holds when certain factors such as availability of finance, time and government policies (intervening variables) comes into play.

METHODOLOGY

The study utilized the mixed methods approach where both quantitative and qualitative methods of data collection were used and adopted a descriptive survey research designs. Public Early Childhood Education & Development Centers in Sotik Sub-County were sampled through stratified and simple random sampling techniques. The study targeted ECD teachers and Head teachers. The study targeted a total of 212 schools and 424 ECD teachers in the sub-county. Currently, Sotik Sub-County has 212 public ECD centers run by 212 head-teachers and 424 ECD teachers handling different public Early Childhood Education & Development centers within this area. A sample size of 21head teachers and 42 Early Childhood Education & Development teachers representing 10% of the target population were involved in the study, where Early Childhood Education & Development teachers were selected through simple random sampling technique and were issued with questionnaires while head teachers selected purposively were interviewed. Quantitative data from Early Childhood Education & Development teachers was analyzed through descriptive statistics, while qualitative data from head teachers were analyzed thematically in line with the study objectives. Validity and reliability of instruments were ascertained. After the test-retest technique was applied, the instruments attained a reliability coefficient of 0.70 using the Cronbach alpha coefficient. This was considered high enough to continue with data collection.

FINDINGS AND DISCUSSION

Kinds of play materials available and in use in public ECDE Centers in Sotik Sub-County

In the first and second study research objectives, the study sought to find out the kinds of play materials available in public Early Childhood Education & Development Centers in Sotik Sub-County. Respondents Early Childhood Education & Development teachers in Sotik Sub-county were therefore asked to indicate the availability and usage of these materials. Table 4.5 shows the response.

Availability and use of play materials

Kinds of play materials available and in use in public Early Childhood Education & Development Centers in Sotik Sub-county (n=39)

Table 1 Availability of the Play Materials and Equipment

	Available and in use		Available and not in use		Not Available	
	Freq.	Percentage	Freq.	Percentage	Freq.	Percentage
Slides	11	28.21	16	41.03	12	30.77
Space	25	64.10	11	28.21	3	7.69
Swings	8	20.51	13	33.33	18	46.15
See-saw	10	25.64	8	20.51	21	53.85
Ladders and platforms	9	23.08	8	20.51	22	56.41
Climbers	7	17.95	9	23.08	23	58.97
Balls	12	30.77	13	33.33	14	35.90
Beam balance	8	20.51	6	15.38	25	64.10
Tyres	6	15.38	4	10.26	29	74.36
Beanbags	5	12.82	8	20.51	26	66.67
Hoops	5	12.82	4	10.26	30	76.92

According to the study findings, different kinds of play materials were available although not in abundance and adequate amount. Therefore, the study found that different playing materials such as slides, space, swings, see-saw, ladders and platforms, climbers, balls, beam balance, tyres, beanbags and hoops were some of the play materials available in Early Childhood Education & Development centers. However, over half of the respondents at 53.85% indicated that they lacked sea-saws for play, 56.41% indicated that ladders and platforms were missing in their centers, while 64.10% mentioned that beam balance were not available. Over three quarters of the respondents indicated that their centers lacked tyres and hoops, while 66.67% lacked beanbags. However, the study found that majority of the Early Childhood Education & Development centers had enough playing space as indicated by 64.10% of the respondents.

On usage, the study found that the available play materials were in use although significant numbers were not. For instance 41% of the respondents indicated that although slides were available, they were not adequately in use. It was also found that swings and balls were not adequately in use as indicated by 33.33% of the respondents. This shows that although there were different playing materials which should be available in Early Childhood Education & Development centers, majority of them were missing and for those that were available, significant were not in use.

The use of existing plays materials available in public Early Childhood Education & Development Centers

The study also sought to investigate the outdoor activities children commonly participated in while in the playground. Early Childhood Education & Development teachers were therefore asked to indicate how often children were using the available play materials in outdoor activities. Table 2 shows the responses.

Table 2 Outdoor play materials children commonly use while in the Playground

Play materials		Very often	Often	Rarely	Never	TOTAL
Slides	Freq.	9	8	12	10	**39**
	Percentage	23.08	20.51	30.77	25.64	**100**
Space	Freq.	31	5	2	1	**39**
	Percentage	79.49	12.82	5.13	2.56	**100**
Swings	Freq.	8	6	3	22	**39**
	Percentage	20.51	15.38	7.69	56.41	**100**
See-saw	Freq.	14	13	9	3	**39**
	Percentage	35.90	33.33	23.08	7.69	**100**
Ladders and platforms	Freq.	4	19	9	7	**39**
	Percentage	10.26	48.72	23.08	17.95	**100**
Climbers	Freq.	8	14	8	9	**39**
	Percentage	20.51	35.90	20.51	23.08	**100**
Balls	Freq.	21	9	6	3	**39**
	Percentage	53.85	23.08	15.38	7.69	**100**
Bar beams	Freq.	6	17	7	9	**39**
	Percentage	15.38	43.59	17.95	23.08	**100**
Tyres	Freq.	3	8	17	11	**39**
	Percentage	7.69	20.51	43.59	28.21	**100**
Beanbags	Freq.	4	6	9	20	**39**
	Percentage	10.26	15.38	23.08	51.28	**100**
Ropes	Freq.	26	9	4	0	**39**
	Percentage	66.67	23.08	10.26	0	**100**

The study found that children very often used the available space in their outdoor activities. This was confirmed by over three quarters of the respondents at 79.49%. This is supported by the findings of Wood and Attfield (2005) who also recommends that, an outdoor play space should provide ample room for climbing, running, swings and other outdoor play activities. Further, Attfield (2005) documents that outdoor play space must contain enough space for all children to explore, discover, experiment, manipulate, reconfigure, expand, influence, change, push their limits and create the basic information about the world while at the same time responding to their need for safety. Similarly, according to Ruth, (2008) play spaces should be designed to serve all children, with several different play activities so that a limited number of children can play in each play activity during playtime.

Over three quarters of the respondents at 53.85% also revealed that children could very often use balls and play during their outdoor activities. Another 66.67% of the respondents indicated that ropes were oftenly used by the children during the outdoor activities. However, majority of the respondents indicated that playing materials such as swings, beanbags at 56.41% and 51.28% respectively were never used by majority of the children during outdoor activities because they were either inadequately available or not available for use in these centers. It was found that playing materials such as tyres were rarely used due to their scarcity. From these findings, it can be deduced that depending on their availability and adequacy, different playing materials were very often used by learners during outdoor activities.

How helpful are playing materials to the child's holistic development?

Respondents (Early Childhood Education & Development teachers) were also asked to rate how helpful play materials were to the children's holistic development. Table 4.7 shows the response.

Table 3 How helpful are the playing materials to the child's holistic Development?

Play materials	Very helpful	Helpful	Not Helpful	Total
Slides	19	18	2	39
	48.72	46.15	5.13	100
Space	31	6	2	39
	79.49	15.38	5.13	100
Swings	24	14	1	39
	61.54	35.90	2.56	100
See-saw	24	14	1	39
	61.54	35.90	2.56	100
Ladders and platforms	20	19	0	39
	51.28	48.72	0.00	100
Climbers	24	14	1	39
	61.54	35.90	2.56	100
Balls	25	12	2	39
	64.10	30.77	5.13	100
Bar beams	21	17	1	39
	53.85	43.59	2.56	100
Tyres	20	18	1	39
	51.28	46.15	2.56	100
Beanbags	28	11	0	39
	71.79	28.21	0.00	100
Ropes	26	12	1	39
	66.67	30.77	2.56	100

According to the study findings, almost all the play materials were helpful to the children's holistic development. For instance, over three quarters of the respondents at 79.49% indicated that playing space was very helpful for the children growth and development, because adequate space or play ground provide the learners with opportunity to

express themselves well and be creative. Other play materials such as swings, sea-saw and balls were also found to be very helpful to the children as indicated by majority of the respondents at 61.54% and 64.10% respectively. This shows that play material and equipment is very crucial for children and leaner's holistic development since it a means through which children conceive and make sense of the world, feel in control, express their views, analyze experiences and solve problems.

Adequacy of Play Materials in ECD centers in Sotik Sub-County

The study also sought to investigate the adequacy of play materials in Early Childhood Education & Development centers at Sotik Sub-County. Respondents were therefore asked to indicate whether the play materials were very adequate, adequate or not adequate. Table 4 shows the responses.

Table 4 Adequacy of playing materials and equipment

Play materials	Very adequate	Adequate	Not Adequate	Total
Slides	8	10	21	39
	20.51	25.64	53.85	100
Space	10	15	14	39
	25.64	38.46	35.90	100
Swings	8	7	24	39
	20.51	17.95	61.54	100
See-saw	6	14	19	39
	15.38	35.90	48.72	100
Ladders and platforms	4	8	27	39
	10.26	20.51	69.23	100
Climbers	6	12	21	39
	15.38	30.77	53.85	100
Balls	11	12	16	39
	28.21	30.77	41.03	100
Bar beams	5	9	25	39
	12.82	23.08	64.10	100
Tyres	6	11	22	39

	15.38	28.21	56.41	100
Beanbags	5	11	23	39
	12.82	28.21	58.97	100
Ropes	16	12	11	39
	41.03	30.77	28.21	100

Table 4 shows that although majority of the play materials and equipment were available they were not adequate. For example, more than half of the respondents at 53.85% indicated that slides were not adequate, while a whopping 61.54% indicated that swings were not adequate. This shows that most of the playing materials were missing in most of the Early Childhood Education & Development Centers in the school and this could be explained by lack of finance to buy them, none cooperative parents and community to provide for them or lack of awareness for their importance. In the same breadth, Forton (2001) documented that play equipment and materials for pre-schoolers should not only be adequate in number but also adequate in their functionality. Forton (2001) further suggest that the materials should be designed to stimulate children and also encourage them develop psychomotor skills. This is also echoed by the observation made by Inan (2009) who explained that the materials should also be provided for children with special needs so that they participate in outdoor activities as a way of encouraging integration and inclusion of all children in the playground. Further, Inan (2009) argues that different equipments should be used in different zones, for instance, moving equipment such as swings and merry-go-round should be located towards the corner, edge or outer side of the playground.

Maintenance of plays materials and equipment in public ECDE Centers

The study also sought to find out how the available play materials were maintained in Early Childhood Education & Development Centers in Sotik Sub-County. Respondents were therefore asked to indicate how they used the various methods ranging from greasing, lubricating, washing to replacement. Table 4.10 shows the response.

Table 5 Maintenance of plays materials and equipment in public ECDE centers

Play materials	Greasing	Lubricating	Washing	Replacement
Slides	0	0	66.67	92.31
Space	0	0	0	0
Swings	94.87	74.36	92.31	74.36
See-saw	92.31	82.05	79.49	79.49
Ladders and platforms	0	0	82.05	76.92

Climbers	0	0	89.74	71.79
Balls	0	0	84.62	69.23
Bar beams	0	0	84.62	66.67
Tyres	0	0	87.18	89.74
Beanbags	0	0	76.92	79.49
Ropes	0	0	74.36	66.67

According to the study findings, almost all the respondents indicated that play swings and sea-saws were being maintained by greasing and lubrication, while others like ladders, climbers, balls, bar beams and tyres were being maintained by washing. This implies that most of the play materials with moveable parts were being maintained through greasing and lubrication, while other such as slides, balls, tyres ropes, bean bags and climbers were maintained by washing or replacing in case of poor working condition. Similarly, (Peterson, 2002) found that play materials and equipment need to thoroughly maintained so that the children can feel safe and secure physiologically and psychologically at all times especially while dealing with play materials and equipment within and around the school playgrounds for optimum participation in outdoor activities. (Peterson, 2002) further puts it that playgrounds and play equipment need to be checked and maintained regularly to ensure the health and safety of all students who use them.

Description of the working condition of most of the equipment

Respondents were also asked to describe the working condition of their play materials. Table 4.11 shows the response.

Table 6 Description of the working condition of most of the equipment

Play materials	Very perfect	Averagely perfect	Poor
Slides	19.12	30.23	50.65
Space	28.12	19.16	52.72
Swings	14.26	30.54	55.20
See-saw	17.82	21.28	60.90
Ladders and platforms	21.36	23.97	54.67
Climbers	15.42	29.43	55.15
Balls	19.22	27.23	53.55
Bar beams	18.34	28.33	53.33

Tyres	18.28	23.45	58.27
Beanbags	17.24	27.23	55.53
Ropes	16.21	27.44	56.35

The study revealed that most of the play materials were either in averagely perfect condition or poor working condition. For instance, of those who had slides, half of the respondents at 50.65% indicated that they were in bad working condition hence could not be effective for their roles. In almost all the playing materials, their working condition was described as poor as shown by averagely half of the respondents. This could have adverse effect to children as pointed by Wortham& Frost (1990) who also found that poorly maintained play equipment is an unsafe environment for children and allows unsafe conditions to occur, such as equipment that has deteriorated or lack repair, deferred maintenance, have worn out chains, protruding screws splintering wood, sharp edges or inadequate play equipment and other materials.

In one of the interviews with the head teachers/managers, it was found that most of the play materials were in poor working condition because of lack of adequate financial resources to carry out proper maintenance. For instance, one of said:

> *"Playing materials such as see saws and swings require greasing and lubrication, and this has some financial implication, which sometimes the school cannot afford. Lack of enough finance can therefore prevent proper maintenance and encourage poor working condition of the equipment"* [Head Teacher, 7]

This implies that most of the playing materials that require finance for their maintenance were in poor working condition due to limited finance among the ECD Centers. Similarly, based on observation checklist made by the researcher found that in most of the Early Childhood Education & Development centers, most of the play materials were either missing or were in bad working state, especially the complex equipment such as swings and see-saw. These findings concurs with that of Berry (2004) who also found that there should be routine maintenance inspection that involves checking play areas and equipment for damage and repairs, modifications and replacements or removal of any items that can cause injuries or harm or do not belong to the playground (like broken equipment or glass, stones, potholes, sharp or protruding objects or edges, splitting wood, rusted or corroded metals), although Early Childhood Education & Development centers from rural areas from most the developing countries do not carry out adequate maintenance and preparation for play ground due to lack of finance. Similarly, a study by US CPSC (2010) report that safe conditions around equipment are essential for young children because they protect children from life threatening injuries (like head injuries) and minimize the risks of falling or landing on bare or hard surface but on something that will absorb the shock.

SUMMARY

Kinds of play materials available and in use in Public ECDE Centres

According to the study, it was revealed that the following playing materials and equipments were readify available and in use in their schools space (90%), balls (95%), tyres {90%), bean bags (93%)

According to the figure 4.3 noted that the respondents had different views on the preferred mode of acquisition of play materials and equipment as follows; those who preferred to be purchased were 29%, those who were supported having local arrangement with the local community were 14%, those who attested that it should be improvised locally were 52% and finally those who supported the issue of donations were 5%.

Maintenance of existing play materials in public ECDE centers

The study attested that the respondents had diverse views on the maintenance of existing plays materials and equipments in Public ECDE Centers. Their responses were as follows; those who pointed that the play materials were very perfect were as follows; Space (72%), balls 62%), tyres (72%), bean bags (62%) and ropes were 67%. Those who thought that they were averagely perfect were as follows; slides (48%), space (28%), swings (28%), see saw (12%), ladder and platform (5%), climbers (0%), balls (38%), bar beams (28%), tyres (28%), bean bags (38%) and ropes (33%). Finally there were those respondents who attested that the play materials were in poor conditions and they were as follows; slides (52%), swings (72%), see saw (88%), ladder and platform (95%) and bar beams (72%).

CONCLUSIONS

The following conclusions were made:

i. That there were different kinds of play materials and equipment in different ECDE centers in Sotik Sub-County these materials included but not limited to; slides, space, swings, see-saw, ladders and platforms, climbers, balls, beam balance, tyres, beanbags and hoops.

ii. Availability of the play materials depended so much on the financial ability of the ECD centers, and little were being provided by the parents and communities. The available play materials were not adequately serving their purpose due to poor working conditions.

Lack of parental awareness on the importance of play and play materials to the child' growth and development could also hurt their availability and adequacy.

iii. The available play materials were in use although significant numbers were not available or not in use due to their poor working condition. Play and play materials were helpful to the children holistic development, because it promotes creativity and cognitive development of the child. Properly maintained playing space was very

helpful for the children growth and development, because adequate space or playground provide the learners with opportunity to express themselves well and be creative

iv. Play materials with moveable parts such as swings and sea-saws were being maintained by greasing and lubrication, while others like ladders, climbers, balls, bar beams and tyres were being maintained by washing. However, based on the observation made, most of the play materials and play spaces were poorly maintained due to maintenance cost which was not easily affordable by most of the centers.

RECOMMENDATIONS

i. The school stakeholders such as school administration, government and parents should examine the various ways of ensuring adequate availability of play materials in ECDE centers, more so the government through the Ministry of Education should come up with programs and policies of providing adequate and encourage the use of play materials in Early Childhood Education & Development centers.

ii. The school management, parents must adopt more efficient, effective and cheaper way of acquiring and maintaining outdoor play materials to facilitate play and overall physical and mental development of learners in public ECDE centers

iii. There should also be programs on in-service training among the Early Childhood Education & Development teachers to enable them handle the diversities in characters among the learners and also implement properly the ECD syllabus including playing and outdoor activities without strain. There is need to have special consideration in terms of outdoor playing materials and equipment for learners with disabilities.

REFERENCES

1. Advani, L. (2002). "Education: A Fundamental Right of Every Child Regardless of His/Her Special Needs". *Journal of Indian Education; Special Issue on Education of Learners with Special Needs.* New Delhi: NCERT.
2. Babbie, E. (2007). *The Practice of Social Research.* Twelfth Edition.USA: Chapman University
3. Berry, M.A. (2012). *Healthy School Environment and Enhanced Educational performance: A Case of Charles Young Elementary School.* Washington D.C.
4. Braidekamp, S. (2012).*Developmentally Appropriate Practice in Early Childhood Programmes: Securing children from birth Through Age 8.* Washington D.C:National Association for the Education of Young Children
5. British Toy and Hobby Association (2011) Play and Physical Health. Available online at: http://www.btha.co.uk/consumers/playandphysicalhealth.php (Accessed Nov. 2015).
6. Bryman, A. (2008). *Social Research Methods.*Third Edition. New York: Oxford University Press

7. Chepsiror P. (2012). An Evaluation of the Availability of Play Materials for EARLY CHILDHOOD EDUCATION & DEVELOPMENT at the Teachers Advisory Centres in Kenya; *Journal of Education and Practice; Vol 3, No 16*
8. Clayton, M.K &Forton, M.B (2011). *Classroom Spaces that Work*. Greenfield, M.A. Northeast Foundation for Children.
9. Cohen, L. and Manion, L. (2012).*Research Methods in Education*, London: Rutledge
10. Eshiwani, G. S. (1993). *Education in Kenya since Independence*, Nairobi. East African Educational Publishers
11. Frankfort. H. J. (2006). *The Whole Child: Developmental Education for the Early Years*. Colombia, Ohio: Merril Publishing.
12. Health Council of the Netherlands (2004) Nature and Health: The influence of nature on social, psychological and physical well-being: Part 1 of a two-part study: Review of the current level of knowledge. Available online from: http://www.forhealth.fi/pmwiki/docs/dutch-health-council-review.pdf (Accessed Dec. 2014).
13. Kerich, M. (1999*). A Thesis of Factors that Influence Performance of Pre-school Children in Class One Selection Examination*: A comparison of Private and Community Based Nursery Schools in Eldoret Town
14. KIE, (1999).*Guidelines for Early Childhood Development in Kenya*.
15. KIE, (2008).*MOE Early Childhood Development and Education Syllabus*
16. Kipkorir, L. I. and Njenga, A. W (1997): *Early Childhood and Education in Kenya*
17. Kombo, D. K., &Delno, L. A. T. (2009). *Thesis and Thesis Writing: An Introduction* Nairobi: Pauline's publications Africa
18. Lieberman, J.N. (2007), *Playfulness: its relationship to imagination and creativity* (New York: Academic Press).
19. Murundu, ZO, Indoshi FC, Okwara MO (2010) School based factors influencing implementation of early childhood development and education curriculum ; *International Research Journals; Vol. 1(9) pp. 382-389*
20. O'Kane, M. and Hayes, N. (2007).*The transition to school in Ireland*: what do the children say? Paper presented at CEARLY CHILDHOOD EDUCATION & DEVELOPMENT Conference March 2007.
21. Oketch, J. G. and Asiachi, A (1992). *Management in Educa*tion. Nairobi, Education Research and Publication
22. Ruth, L. C. (2008). *Playground Design \\and Equipment: Whole Building Design Guide*. National Institute of Building Science
23. Singer, J (1994) 'Imaginative play and adaptive development', in British Toy and Hobby Association (2011b) Play and Physical Health. Available online at: http://www.btha.co.uk/consumers/playandphysicalhealth.php (Accessed Nov. 2015).
24. Singer, J. (2006), Learning to play and learning through play, epilogue in: D.G. Singer, R.M. Golinkoff and K. Hirsh-Pasek (Eds) *Play = learning. How Play Motivates and Enhances Children's Cognitive and Social-Emotional Growth* (Oxford: Oxford University Press).
25. Stipek, D. (2005). *Early Childhood Education* at Crossroads Harvard Education Letter
26. Strandell, H. (2010), what is the use of children's play: preparation or social participation? In: H.Penn (Ed) *Early childhood services: theory, policy and practice* (Buckingham: Open University Press), 147–157.
27. Wolverton, M. L. (2009). Research design, hypothesis testing, and sampling.*Appraisal Journal*, *77*(4), 370-382.
28. Wood, E. and Attfield, J. (2005), *Play, learning and the early childhood curriculum*, 2nd ed. (London: Paul Chapman).