

**PLAY AND CHILDREN'S ACADEMIC PERFORMANCE IN YATTA
SUB-COUNTY, MACHAKOS COUNTY, KENYA**

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DECLARATION

This research project is my original work and has not been used for the award of degree in any university.

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This research project has been submitted for examination with my authority as a university supervisor.

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DEDICATION

This work is dedicated to my husband John Lemmy Mwandikwa Mukala and my child Faith Mutheu Mwandikwa for their support financially, spiritually and morally during my study.

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May the almighty God reward each one of you abundantly

ABSTRACT

The purpose of this study was to investigate the effect of play on children's academic performance in Yatta Sub-County, Machakos County, Kenya. The study was guided by three objectives which focused on types of materials, types of play and time allocated to play and their effect on children's performance. The literature review addressed issues of types of play and children's academic performance, play materials and children's academic performance and time allocation for play and children's academic performance. The study was hinged on Froebel's (1852) theory, which states that play is a serious and deeply significant activity for young child. Froebel viewed kindergartens as institutions where children instruct and educate themselves and where they develop and integrate all their abilities through play. The study employed quasi-experimental research design and targeted all the 60 public pre-schools and private pre-schools in Yatta Sub County with a population of 1800 pre-school children and 62 pre-school teachers. The tools for data collection were questionnaires and performance test. The study established that use of different play materials had a positive effect on academic performance of preschool children. Using the number board yielded higher scores especially in arithmetic followed by skipping robes. There was also greater improvement in the mean score between the pre-test and post test when children were exposed to types of play. When children were exposed to teacher initiated and guided play, they tended to record the highest improvement in their mean score. Role play and group play also significantly enhanced children's academic performance. Lastly, there was a significant change in the mean score of children with increase in time allocated for play and therefore play time has a significant effect on academic performance. Based on the findings that study recommended that, teachers need to create more time for the children to be engaged in play. There is also need to use a variety of play materials in schools in addition to provision of adequate space for play. Teachers also need to be innovative and come up with more playing materials driven from the school environment. In order to supplement the results of this study there is need to carry out a similar study in the rest of the country.

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ACRONYMS AND ABBREVIATIONS

ACRWC	-	African Charter on the Rights and Welfare of Children
CRC	-	Child Rights Convention
DEO	-	District Education Officer
KCPE	-	Kenya Certificate of Primary Examination
K.I.E	-	Kenya Institute of Education
ZPD	-	Zone of Proximal Development
UNICEF	-	United Nations International Convention of Education Focus
ECE	-	Early Childhood Education

CHAPTER ONE

INTRODUCTION

1.1 Background to the Problem

The role of play in supporting children's development of 'metacognitive' and self-regulatory abilities has been acknowledged as being critical is an area of recent research development. Metacognitive abilities involve development of awareness of cognitive and emotional processes and expansion of policies to control them. It is now clearly established that children begin to develop this awareness and control very early in life, important individual differences are quickly established which have long-lasting results for attainment and well-being, that these abilities are learnt, and can be taught, and that the various types of play form a powerful context for their development (Whitebread, 2010). Play is multifaceted, and its complexity lies in the many different ways in which children play. It is also a natural part of a child's life, with many opportunities to engage in play and work together with peers (Whitebread, 2010).

Vygotsky (1978) presented insights on play that suggested a new role for adults in child's play. Vygotsky believed that children develop an understanding of the world through play and that adults could encourage this development by appropriate intervention. He viewed play as a means for socially assisted learning and scaffolding. In scaffolding, the adult assists the child to perform at a higher level than would be possible without adult support. When the child is able to perform alone, the adult gradually withdraws and lets the child act independently. This kind of adult intervention helps children expand their knowledge and learning during play. Adult scaffolding during play encourages children to learn self-regulation, cooperation, memory, language use, and literacy (Craig & Dunn, 2009).

Early childhood educators have long recognized the power of play. The significant contribution of play to young children's development is well documented in child psychology, anthropology, sociology, and in the theoretical frameworks of education, recreation, and communications. Play is important for the child's development and learning. Conscious use of play to promote the development and learning of each individual child should be an omnipresent activity in the pre-school. Play and enjoyment in learning in all its various forms stimulates the imagination, insight, communication, and the ability to co-operate and solve problems. Through creative and imaginary games, the child will get opportunities to express and work through their experiences and feelings (Frost, 2010).

Numerous studies reported the benefits of learning literacy through play (Christie and Roskos 2006). These studies found that children's literacy knowledge and behaviour increase in literacy-enriched play settings and that adults' involvement in play increases the amount of literacy activities (Bellin and Singer 2006 and Han, 2009). Adults should assume a variety of roles when interacting with children such as onlooker, co-player, or, sometimes, play leader. When the adults draw children's attention to the literacy in the play, children's abilities to recognize literacy is enhanced. This kind of guided play is a blend of play and academic learning (Roskos et al. 2008). As we already mentioned, within guided play, teachers are goal oriented, but they should remain sensitive and responsive to the children's behaviours. Neuman and Roskos (2012) report that playful learning with adults—of which guided play is one type contributes to the acquisition of literacy skills. Literacy embedded in playful contexts is learned better and faster.

Learning through play is a group activity which involves males and females. There have been studies on the influence of gender on students' performances Babalola and Oyinloye, (2012) in a study titled gender distinctions found that male and female can perform well in language tasks not on the ground of gender but on the pedestal of individual ability. Kolawole, (2010) in a study on science found that there was difference between the achievement of male and female students in Science that is gender influences learning Sciences. Maheshwari, (2013) found that, play offers informal and free atmosphere which gives the kids a chance to learn concepts, Mathematics and Language. He said visual materials can be used to teach the young ones about Mathematics, art and nature.

Play enhances motor expression which is learning by doing as against learning by rote, Onukaogu, Oyinloye and Iroegbu, (2010) found that play can help children to learn Mathematics in the following ways: Learn about equal lengths, open and close spaces, topography, solid geometric shapes as they play with blocks of different colours and shapes; Learn about set theory as they group, sort and classify objects like abacus, counters, and mathematical shapes; Learn to compare sets develop one by one correspondence, and solve problems using Mathematics (such as counting the pieces needed for each to play a game); Learn to recognise, duplicate and extend simple patterns using a variety of materials; Increase abilities to match, sort and put in a series, and regroup objects according to one or two attributes such as shapes or sizes; Begin to recognise, describe, compare and name common shape, their parts and attributes; Progress in the ability to put together and take apart shapes; Develop increasing ability to count in sequence to 10 and beyond.

In South Africa, the role of play in young children learning of traditional games where play helps in the development of physical agility, concepts and cultural and social learning (Sedite, 2009). In Zimbabwe a large number of play centres and playgrounds were established to provide custodial service for children while mothers engage in community project (Dozva, 2009). Further, play stimulates brain growth of a child, function and has a key role in building the base, organization, and capabilities of the brain. In Kenya Sinyei (2012) states that, parent, teachers and school managers are increasingly giving too much attention to excellent academic achievement in national examinations. A lot of emphasis is now on rote learning and memorization to reproduce the learnt concepts without a clear understanding of the concepts learnt. This practice has trickled down to the preschool institutions. It is perhaps on the realization of the importance of play activities in preschool that the Kenya Government therefore, needs to ensure that best practices are developed in the preschool settings to ensure effective learning to produce all-round learners. This can best be achieved through effective implementation of the various preschool curriculum activity areas especially those which are play-centred. Play activities improve the working capacity of crucial body systems and improve the degree of alertness. It is believed that physically and mentally alert students perform well in their studies.

In pre-schools there are different types of play which children engage to develop their different skills. For example creative play, manipulative play, physical play, imaginative play, pretend play, directed play and social involvement play. According to Njenga and Kabiru (2007), play helps children to express their feelings and emotions. Children are able to control their body muscles, develop their eye-hand coordination and interact with their environment to explore their talents (Gardener, 1982).He further asserts that as children play they are able

to improve their abilities. According to Biber, (1984) young children need variety of play materials to manipulate them. According to Biber (1984) further assets that play materials should be attractive, durable, soft, and safe for children to manipulate and capture their curiosity. Through manipulation of materials children are able to develop their fine motor skills and their gross motor skills. According to Hanline (1999) variety of materials motivates learners in class. Their curiosity and interest is sustained throughout the activity.

According to Curtis (1998), researchers have been concerned on time allocated for play in pre-school. In line with time allocated to play activities, researchers have also been interested on the attitude of the teachers towards play. According to Bantrock (1965), attitude affects the teaching and learning behaviour and behaviour affects the level of participation in the learning activities. Tylor (1949) documented the positive attitude and responses that teachers have when they first make sense of a concept and build new connections. According to Bishop (1985) increased self-confidence and positive attitude motivates teachers to work hard to make further explorations and additional discoveries but negative attitude will demoralize teacher's efforts. The foregoing discussion has highlighted the various ways through which play activities are carried out in relation to nature of materials used, and time allocated to play on children's academic performance.

In order to provide services for children, pre-school teachers are expected to be guided by and use the preschool policy framework as a foundation for improved service delivery to preschool children (Republic of Kenya, 2006). The preschool policy framework is based on principles that are universally accepted as forming the cornerstone of quality early childhood development services and programs by ensuring that the holistic needs of young children are

met to maximize the realization of their full potential. In order for pre-school teachers to provide these facilities, they should be guided by a framework that defines appropriate play facilities for all children.

Play activities of preschool learners is one of the most important activities in the development of mental, physical, social, emotional and intellectual skills of the learners. Teachers are expected to implement play activities to learners to the latter. However, it has been observed that implementation of play activities of preschool children appears to be an important issue of research and the concern for the study. In many pre-schools, when one visits a school he or she can find learners playing on their own unattended with little assistance of teachers. It is against this background that this study sought to find out the influence of play activities on academic performance of children in pre-schools in Yatta Sub-County, Machakos County, Kenya.

1.2 Statement of the Problem

All children therefore need to be equipped with the essential tools of knowledge, according to the varying extent of their abilities so that they can make a contribution to the economy and the government of their community that will improve their quality of life and self-fulfilment. The report at the District Education Officer (DEOs) office in Yatta Sub-County shows that the average marks of children in academic performance have been below 40% from 2008 to 2013. This is a worrying trend which needs an urgent intervention. It is important to note that good academic performance at pre-school levels lays a foundation in entire education life of an individual. The way children are prepared in pre-school may influence children's academic performance in primary school. Children in pre-school do not sit for national examinations as

they move to primary schools and also there are no assessments that have been conducted to determine children's academic performance in pre-school before they move to primary school. Children in primary schools do not perform well after joining primary school. This dismal of performance in KCPE coupled by scanty literature on the role of play and children's academic performance prompts the researcher to carry out a study to establish the effects of play on children's academic performance in Yatta Sub-County, Machakos County.

1.3 Purpose of the Study

The purpose of this study was to investigate the effect of play on children's academic performance in Yatta Sub-County, Machakos County, Kenya.

1.4 Objectives of the Study

The study was guided by the following objectives:

- i. Establish the effect of materials for play on children's academic performance in Yatta Sub-County
- ii. Establish how types of play affect children's academic performance in Yatta Sub-County
- iii. Examine the effect of time allocated for play on children's academic performance in Yatta Sub-County

1.5 Research Questions

The study was guided by the following research questions:

- i. How do play materials affect children's academic performance in YattaSub-County?
- ii. How do types of play affect children's academic performance in Yatta Sub-County?

- iii. How does time allocated for play affect children's academic performance in Yatta Sub-County?

1.6 Hypothesis of the Study

- i. There is no difference between the children taught with more time allocated on play materials and those taught with limited time to their academic performance
- ii. There is no difference between the children taught with play materials and those taught without materials to the academic performance
- iii. There is no difference between the children taught using different types of play and those taught using limited type of play on academic performance

1.7 Significance of the Study

The findings of this study may be used to mobilize parents and stakeholders to participate in improving play and children's academic performance. This study may be used by curriculum implementers and planners to improve academic performance in pre-schools by improving the playing materials, types of play and teaching time. The policy makers may identify areas of concern and address them in the best interest of the child. Also the school management and administration may also benefit from the study in that the findings might challenge them to change the methodology of delivering content. The teacher may also use the performance of the children to explore and find out what types of play materials, types of play and time might be more effective when used to build up a good academic performance.

1.8 Limitations of the Study

The study investigated the effect of play on children's academic performance. There are other moderating variables such types of schools and location of the school which influences

performance of pre-school children but they were not investigated. The other limitation is that the findings of this study were not generalised to other areas because every area has got its inherent characteristics which do not apply to other areas.

1.9 Delimitations of the Study

The study was conducted in two pre-school teachers, one from public school and the other one from private school. The reason for having a blend of the two is for the comparison of the results. This is based on the assumption that private schools have more play material than the public schools due to funding issues. The study also focused only on all pre-school children in both public and private schools.

1.10 Basic assumptions of the Study

The study was based on the assumptions that play is given priority in pre-schools and that there is more time allocated on play on all the preschools. The other assumption is that teachers are aware of the role of play in teaching the preschool children.

1.11 Definition of Significant Terms

Children – a person between birth and 8 years who is in pre-school

County – a geographical area used for administrative purposes under the leadership of a governor.

District – an administrative division governed by the county government and central government

Play – an activity for enjoyment and recreation rather than a serious or practical purpose allocated in the school timetable for pre-school children.

Pre-school – A level of education before a child joins class one in line with 8-4-4 system

Performance – actual academic accomplishment of children measured through administration of tests

Private pre-schools – Pre-primary schools owned by an individual

Public pre-schools – Pre-primary schools owned by the government

1.12 Organisation of the Study

This study is organised in five chapters. Chapter one deals with background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, hypothesis, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study and definitions of the operational terms. Chapter two focuses on review of related literature, theoretical framework and conceptual framework. Chapter three deals with introduction, research design, population, sampling procedure and sample size. It also deals with instruments, validity and reliability, procedure for data collection, data analysis and ethical concerns. Chapter four outlines findings and discussions of the study and chapter five covers summary, conclusions and recommendation of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents literature related to the study. The review examines literature related to types of play on children's academic performance, play materials on children's academic performance and time allocation for play on children's academic performance. The review then examined relevant theories on children's academic performance and then concludes with conceptual framework based on the variables in the study.

2.2 Type of Play Materials and Children's Academic Performance

A study by Zigler (2008) contended that quality-learning environments support children's learning with a rich variety of materials that enable them to explore and make discoveries. Zigler (2008) suggested that provision of play materials stimulates children's interest in the learning activities. The study noted that young children join pre-schools with a broad range of experiences and a high level of interest using a variety of technologies, involving computers, digital cameras, mobile phones and many hand held devices making new technologies available alongside traditional materials like blocks enables and extends playful explorations. Further, they can be used to document learning scenarios that describe the types of learning that occurred and also shared with parents.

Research by Garry (2010) established that traditionally, blocks are the most used play materials in schools. It was found that block play is an essential component of early childhood programmes and is justified in terms of being an open-ended play activity in which the children learn. Playing with blocks is thought to lead to learning about the physical properties of objects, eye-hand coordination, cause and effect, object permanence and specific concepts

related to shape and gravity. Block play was frequently cited as a free play activity that can provide contexts for planning. Willis and Hyman-Parker (2010) contend that children need to play in the real world with actual objects and in materials that are tactile and tangible with minimum intervention by the teacher. The study also revealed that that children's play was directed along six "gifts" for children. These colourful gifts were simple soft balls and sets of blocks with which children could play and make interesting designs. Children were given access to these gifts at different ages to allow them to explore the objects and their potential uses. The study also noted that infants were given soft, coloured balls to play with and explore their colours, textures and properties.

A survey by Popoola (2008) stressed the importance of a structured or "prepared" environment in which children are provided with materials and experiences that foster their intellectual, sensory and motor development. By using the materials within the prepared environment, children learn to explore their world through all their senses. For example, in learning the letters of the alphabet and the basic skills of writing, pre-scholars may begin by tracing complex geometric figures to train the muscles needed for writing. According to survey, children used letters cut from sand paper that they could feel with their hands. They then used cut out letters for spelling the names of familiar pictured animals. Materials availability was limited and their use strictly structured in accordance with the notion of the prepared environment. Children are bound to the prescribed materials in the sensory exercises they were free to explore the prepared environment in an orderly fashion.

A study by Mahindu (2011) noted that teachers provided play materials as means of stimulating their understanding of objective reality in a creative way. It was found that young

children are strongly influenced by toys that are marketed on television. Some of these toys were related to cartoon shows, current children movies or children television programmes that feature violence and action figures. These toys were found to have little play value and was related to aggressive play. The study similarly asserted that toys which stimulate the imagination, dramatic play or creativity contribute to a decline in the imaginative activities of young children. The more appropriate choices are toys that are unstructured, diverse playability and have simple design. Parents, teachers and caregivers need to consider play in development domains in their choices of toys and materials for pre-school children. Activities provided should allow the children to explore for themselves and use materials provided in their own way. When choosing materials, one must take into account those children who are the same age but at different stages of development in the setting (Zigler, 2008).

Zigler (2008) noted that children should be provided with materials, which help different muscles to develop. Gross-motor play for example, large blocks, transportation toys, climbing environment etc. Fine motor play materials like clay, puzzles, art supplies, beads for stringing, construction materials (small blocks, toys etc.). Cognitive play materials like water play, simple board games, simple card games and materials for socio- dramatic play, dolls and stuffed animals: miniature life figures, housekeeping equipment etc. These materials should be non-toxic and have appropriate safety marks. Small parts should not be used for children under three years in case they may swallow them. Seeds, beans and pulses can be dangerous or sometimes poisonous. Protective coverings should be used when necessary which should be provided with overalls to cover their arms and bodies.

Directed play activities are planned by the teacher who demonstrates to children so that they imitate and acquire the expected skills. Some older children can be used in some of these activities (KIE, 1992). The teacher should ensure that children get equal chances to lead and play in such activities. Examples of directed play we have running races, body movements and exercises, songs and dances. According to Mutua (2012), play materials should be designed to stimulate children and also encourage them develop psychomotor skills.

Testing the effects of specific features of the board game on children's learning is critical for understanding why the game works and for creating future informal learning activities. One feature that seemed likely to be important was how the linearity of the game board influenced children's learning about numerical magnitudes. To test this feature, O'Connor and Stagnitti (2011) assigned children to play either the linear board game or a circular board game. The linear game was expected to be more effective than the circular one on the magnitude tasks (number line and magnitude comparison), because the linear board is easier to translate into a linear mental number line. There was no obvious reason to predict that the linear board would promote greater improvement than the circular board in numeral identification because that skill does not depend in any obvious way on a linear representation. Instead, the linear board and the circular board were expected to be equally effective in promoting numeral identification skills. As predicted, playing the linear board game for roughly an hour increased low-income preschoolers' proficiency on numerical magnitude comparison and number line estimation. Playing the game with the circular boards did not improve children's performance on these measures. Also as predicted, playing the linear and circular board games improved children's numeral identification skills by an equal amount. Counting was at ceiling in this sample, so no comparisons were possible.

Another major finding of O'Connor and Stagnitti (2011) was that preschoolers who earlier had played the linear board game learned more from subsequent training on arithmetic problems than peers who had played the linear board game. We predicted that learning answers to arithmetic problems in part reflects appropriate numerical magnitude representations, and that playing the linear board game produces such representations. During the pretest and post-test, children were administered four simple arithmetic problems, $2 + 1$, $2 + 2$, $4 + 2$, and $2 + 3$. After playing the board game for the four sessions, in a fifth session children were given a brief training with feedback on the two easiest arithmetic problems that they answered incorrectly on the pretest. Then they were asked to answer the two problems without feedback. Among children who had previously played the linear numerical board game, the percentage of correct addition answers was higher than in the circular board game condition or in a control condition. Especially relevant to the idea that the gains came about through improving children's numerical magnitude representations, children's errors in the linear board condition, but not in the circular board condition, tended to become closer to the correct answer from pretest to post-test.

A report by Commonwealth of Australia (2008) points out that there should be ample playground facilities, access to play tools and at the same time, teachers should be encouraged to undertake physical activities. It was found that teachers are unable to employ pre-scholars in play activities because, play facilities are not available, and pre-schools lack leisure facilities, play materials and physical infrastructure. Equipment, materials and experiences planned should allow for a variety of kinds of movement for development of motor skills, natural features such as horizontal tree trunks, rope structures and temporary arrangement for physical challenges broaden the possibilities for play activities (Gauntlett, Ackermann,

Whitebread, Wolbers & Weckstrom, 2010). As regards stimulation, within indoor, environments, this is mostly related to the provision of play materials and toys which support play. It has been established for some time, through a number of studies that access to a variety of materials and toys related to children's cognitive development. Well established materials and toys support play most effectively when they are open and flexible and provide children with wealth of opportunities for creativity for social interaction with their peers and adults, for authorship and for deep engagement. Resources in form of play objects, space and time are very important in pre-primary classrooms because the level and type of children's play depend mostly on the availability of these resources.

Hanley & Tiger (2011) confirm that one strategy to promote selection of important but less preferred activities is to limit access to children's activities that children like most. For instance, limiting access to dramatic play, computers, and blocks might increase participation in other activities. A more acceptable alternative, which retains the preferred activities during free play, is to provide prolonged access to preferred activities in an attempt to decrease subsequent participation in those activities due to satiation or habituation. By decreasing the amount of time spent interacting with preferred free-play activities, such a procedure might also indirectly increase the amount of time spent in originally less preferred activities. Play facilities and materials in children's play add value to the play. Children learn best when they are part of a secure and stimulating environment full of play materials for manipulation.

Mahindu (2011) examined the effect that selected play materials have on certain aspects of children's development. He used 36 children ranging in age from 2 – 3 years. Each child was engaged in different play materials. The results revealed that children who had used a variety

of play things had developed better than those who were not exposed to a variety of material. The discourse of boys and girls was similar but boys tended to initiate more topics during play than did girls. Due to this, children should be provided with playing materials as a way of enhancing their play.

A study by Andang'o (2009) on the use of song and movement to create a multicultural curriculum for early childhood music education in Kenya revealed that in most schools, preschool classrooms were not furnished with play materials. In many cases most of the classrooms lacked enough space for integration of play activities in teaching and learning. It was also found that teachers in the public preschools were not well equipped to provide play-based instruction. This poses a challenge to the use of play in teaching and learning and there explains differences in performance between public preschools and private preschools which were in more cases more equipped with play materials.

2.3 Types of Play on Children's Academic Performance

Research by Johnson, Christie and Wardle (2005) and Van Hoorn, Judith, Nourot, Scales and Alward. (2003) suggest that children benefit from both unstructured play and from teacher-guided play. Roskos, Tabors, and Lenhart (2004) describe guided play as play structured to teach academic skills and concepts. Guided play has tremendous potential for language and literacy learning. Guided play can include direct participation of adults (Van Hoorn et al. 2003). Though adults have goals or targets they hope to meet through such play, they must also remain sensitive and responsive to children's behaviors (Christie and Enz 1992; Christie and Roskos 2006). However, the efficacy of using guided play in teaching language skills has not been fully tested.

Pellegrini and Galda (2010) reported that preschoolers use complex mental-state verbs such as *say, talk, tell, write, and explain* when they are engaged in make-believe play. Dickinson and Moreton (2011) echoed this finding, noting that three-year olds talking more in pretend play was associated positively with the size of their vocabularies when they began kindergarten two years later. The advanced language capabilities that emerge in play offer not only a window into children's growing competencies but also a link to their literacy. Singer and colleagues (2009) wrote that play is crucial for oral language skills, which is the basis for later reading skills, and that children learn best through playful, guided interactions. Specially guided interactions with adults in playful contexts increase children's vocabularies (Roskos, Tabors, and Lenhart 2009). Hence, there is a strong warrant in play to support vocabulary development in young children.

In play, children try out new ways of combining thought and language; for example, by using language to represent new ideas not tied to reality. Since dramatic play is symbolic in nature it can provide a "bridge" to printed language. Dramatic play enhances children's comprehension of stories through "re-enactments." Children use decontextualized language within the context of dramatic play and in recounting events derived from personal experience in their play. Talk about play, referred to as "metaplay," is an indicator of children's ability to think about language and has been associated with children's later reading and writing. Children's language is enhanced when adults and older children scaffold their play, particularly in complex socio-dramatic play, when children must keep in mind their own and others' roles and can even "plan" their play. This kind of play is reported to foster self-regulation.

We then tested the generality of the benefits of playing the number board game across various number tasks and over time (Ramani, Rowe, Eason & Leech (2013). Playing the linear board game provides children with practice at counting and at numeral identification, because players are required to name the squares through which they move (e.g. saying ‘6, 7’ after starting on the 5 and spinning a 2). Thus, playing such games would be expected to improve counting and numeral identification skills, as well as performance on tasks that require understanding of numerical magnitudes.

A study by Ramani, Rowe, Eason and Leech (2013) further examined whether children’s learning remained apparent many weeks after the last game playing session and therefore presented 124 Head Start children several measures of numerical knowledge of the numbers 1–10. Children were given the number line estimation task, a magnitude comparison task (‘Which is bigger: N or M?’), a numeral identification task (‘Can you tell me the number on this card?’), and rote counting (‘Count from one to 10’). These tasks were presented on a pre-test before the game playing began in Session 1, on a post-test immediately after the final game was played in Session 4, and in a follow-up session 9 weeks after the post-test. After playing the number board game, children showed improvements on all four measures of numerical knowledge. These improvements were stable over time. After 9 weeks of not having played the board game, improvements on all four tasks remained significant, and they were at least as large on three of the four tasks as on the immediate post-test (Figure 2). As in the previous study, children who played an identical game, except for the squares varying in colour, did not show comparable improvements.

This study by Nsamenang (2008) investigated the effects of play-way method on the numeracy skills of early basic education pupils in Ekiti State, Nigeria. Play-way method has been described as the best method for enhancing pupils learning by many researchers. It was observed that many teachers of early childhood education still use demonstration method to teach the pupils. An interview conducted by the researcher reveals that some teachers find demonstration convenient because they could not provide enough materials that will go round the pupils. The population of the study was all the early basic education schools in Ekiti State where pupils are given pre-primary education specifically, children between ages 4-5years. The sample is made up of 120 children split into two groups of 60. The design of the study was a quasi experimental. The children were interacted with for 6 weeks with the goals of exposing them to numerical literacy. Two groups were involved each exposed to different interactions, namely: guided play and demonstrations. The achievement test which is the instrument was validated and it has a correlation coefficient of 0.76. The hypotheses tested the difference in the scores of the pupils in each group and also gender influence. The result showed that there was significant difference in the performance of students in favour of those in guided play group. Also gender has no influence on the pupils' achievement in each group. As a result of the findings, it was recommended that early child educators should use guided play with lots of activities to enhance pupils' achievement in numerical skills.

A survey by Lawrence (2011) play is often categorised in four groups: Creative, physical, manipulative and social imaginative. According to Lawrence, children gain a great deal of satisfaction from creative play and so increase both their confidence and self-esteem. In creative play, there is no competition. Children often enjoy the process more than the end product. However, all children should be praised for their efforts so that they feel pride and

satisfaction rather than disappointment and frustration. According to Ziegler (2006) creative play is an important means of encouraging children to experiment and explore the world around them. It helps them discover through their senses the properties of different materials. If provided with a wide range of activities, they can develop physical, social, emotional and intellectual skills.

Play is important for development of strong and healthy bodies. According to Njenga and Kabiru (2009), children acquire muscle strength and also learn to control and coordinate their bodies through play. In addition, they learn to use their bodies to express themselves and communicate with others through bodily movements. Children learn using their senses. According to Mwangi and Njuguna (2009) children observe, talk about, investigate and experiment through the use of their hands, eyes, ears, nose, mouth and their other parts of the body. They learn by touching, smelling, observing, discovering, imitating, identifying, exploring, describing and experiencing. Between the ages of one to four years, children are engaged in rough and tumble play such as rolling tyres or wire wheels, kicking or throwing which they have mastered.

According to Mwangi and Njuguna (2009) manipulative play involves children using their hands. Children develop eye-hand co-ordination as they usually concentrate carefully on what they are doing. According to Howard (1982), sight and touch are therefore, important parts of manipulative development. Young children can be observed in early manipulative play, exploring their hands (KIE, 1999). Gross manipulative play encourages the use of the whole (hand and arm), leg to grasp, push, hit, pick up, or release - for example, throwing a ball. Fine manipulative play encourages the use of finer muscles of the fingers and thumb. In this type

of play, children learn to use their fingers independently - for example, unscrewing a lid, cutting or using a pencil. Sylvak (1980) says that providing manipulative play does promote children's development. When providing materials for manipulative play, they must be appropriate for the child's stage development. Through manipulative play, children will develop their language and mathematical skills by describing the activity, counting items and playing with shapes. They will develop their perception by observing what happens during play. Children will also develop their cognitive skills by sorting and matching shapes. Again, children will develop their self-esteem by making their own creatures out of items such as building bricks. Children are able to express through manipulative play activities: Braiden 1992).

In imaginative play, children pretend they are other people or that they are in a different situation. Hoffman (1988) believed that this happens naturally during play as they act out situations for pure enjoyment or to make sure of their own world. At other times imaginative play is instigated by an early year's practitioner so that children can explore familiar or new situations and fantasy worlds. Work settings can support and provide a number of imaginative play activities to allow children to safely explore their own feelings and the world around them. According to Howard Gardener (1982), imaginative play is an excellent way of developing children in many ways. Children as young as 18 months will use role play to develop their imagination. Through their imagination, children will be able to experience the theme that is being explored. Child-led imaginative play is imaginative play that can be totally unplanned for example, one child might be playing under a climbing frame using it as a jungle and very soon two or three other children might be joining in this imaginary play. By providing a box of different hats, children are able to role play many different characters.

Games are a form of play with high social involvement. Some can be solitary; a youngster plays alone or watches other children play without attempting to join. Social activity begins with parallel play in which two children play side by side, each with on his or her own toy and each perhaps keeping up a monologue that amounts to thinking out loud:(Njega and Kabiru 2007) When the sequence of development was first purposed, it was found that children were undergoing forms of play in order, with solitary play being the least mature and group play the most advanced Njega and Kabiru (2007). Today, however, researchers stress that all early varieties of play persist into elementary school and that each has a purpose.

Solitary play can take any of the forms of play. Children who engage in solitary constructive play tend to be socially competent youngsters who are busy at some goal - directed activity. When other children are available solitary pretend play is associated with social rejection, poor role-taking ability, and difficulty in figuring out solutions to interpersonal problems (Henry 1969). Parallel play also appears in other forms of play. Socially competent children use parallel play to work themselves into play with the group Wood (2008). Parallel constructive play is also common and healthy as when two children sit side by side drawing, working in clay, or making separate models Curtis (1998). However, when children spend lengthy periods in other kinds of parallel play-especially in immature they are in some sort of emotional distress. Macharia (2012) describes that types of play should allow children to develop gradually and test their skills by providing a series of graduated challenges in an age appropriate manner.

Tsung-Hui & Wei-Ying (2008) illustrates that, ECDE teachers set up appropriate, stimulating environment for young children but decide to stand back and may not follow up with

supervision, supportive, reactive interactions with the children as they play. These authors described this as the early childhood error. Some teachers find it difficult to participate in children's play for fear of disrupting the flow of children's play activities. Teacher's involvement in play enriches children's play and develops children's intellectual and social skills. On the other hand, if teachers give more structured cognitive activities through play and take over the control of play at that time teacher intervention interrupts children's play. In social dramatic play training, teacher actively participates in the dramatic play of children by enhancing inside intervention. Thematic fantasy is more structured type of training. In this training adult helps children by dramatizing story through reading stories and assigning roles to the children (Tarman & Tarman, 2011).

Further, Elkind (2008) cautions that, teachers have to watch what children are doing, support their efforts and contribute thoughtfully in order to support additional learning. Thus, teachers can take part in children's play activities by being sensitive to children's needs. Furthermore, teachers are expected to plan activities such as role-plays, sports and games that strengthen children's health and the process of socialization. Young children need to be encouraged and appreciated. Teachers need to discuss with them about the different music activities such as how songs are sung, give them an opportunity to describe how music makes them feel, or the images the particular music create in their mind, their reactions to different types of music and their likes and dislikes (Andang'o, 2009).

Being involved in movement positively affects children both cognitively and physically. Movement activities can be initiated by teachers throughout the day and especially during classroom transitions using songs and rhymes that reinforce lessons to improve children

listening and memory skills. Activities, games, seat changing, role play and dance actively contribute to children development, basic timing balance coordination and concentration (Lawrence, 2011). McCollum & Ostrosky (2008) states that, as the teacher monitors and guides play, and scaffolds interactions, he/she use strategies that support social incorporation and interactions among children with and without disabilities, and among children of varied racial/cultural backgrounds. Social integration activities offer a context for teacher and peer support for children with social interaction difficulties. Teachers could act as mediators, supporting children's interactions with materials as well as with other children. In a mediating role, teachers model for children the flexible thinking and problem solving abilities needed for peer interactions (Van Hoorn et al., 2011). As the teacher monitors and guides play. For example, during teacher guided play, teachers could arrange for children with limited peer interactions to be involved in roles that put them in direct contact with children who are socially responsive and competent. This enables children with interaction difficulties to observe socially competent peers, participate directly in social interactions with peers who have excellent play and interaction skills, and establish a positive history of peer interactions. Also, as children engage in teacher guided play, teachers can encourage children to be friendly, interrelate affectionately, compliment, smile, give encouragement, share, and use other forms of pro-social behaviour. Such integrated playgroups have been found to lead to more frequent peer interactions, and positive changes in interactions between children with and without disabilities (McCollum & Ostrosky, 2008). In most schools teachers concentrate on class work with an aim of syllabus completion.

A study by McCollum & Ostrosky (2008) revealed that teachers support children as they play during play time and they also participate with the children during play (69.3 percent). They

also participate with the children during play activities (69.3 percent) and engage themselves in play activities. The study pointed out that as children engage in teacher guided play, teachers could promote children to be friendly, interact affectionately, compliment, smile, give encouragement, share, and use other forms of pro-social conduct. In addition, children were guided during play time by their teachers (43.2 percent) and 47.7 percent planned activities such as role play to strengthen children during play. Nevertheless, teachers do interact fully with children during play to enhance safe play (76.1 percent). The findings were in line with Ghana Education Services (2004) where teachers were responsible for providing play leadership in schools by means offering favourable conditions in which children learned with delight with ease. The data analysed in respect of hypothesis one which tested the difference in the achievement of pupils showed that children taught with guided play have the higher mean scores. This by implication indicates that they performed better than those taught with demonstration method. The hypothesis tested showed that there is significant difference in the performance of the children in the two groups. The findings of this study buttresses Kalia and Reese (2009) who cited the pioneer of early childhood education such as Froebel, Montessori and Vygolsky all who propounded that children should be taught through play.

The second hypothesis which tested the difference between the achievement of male and female in each of the methods showed that there was no difference between the achievement of the male and female pupils in each of the methods. These findings supported the findings of Oyinloye & Babalola (2012), Ayodele & Popoola (2006) and Popoola (2004) that male and female pupils can perform well without disparity if they were exposed to the same condition. Also, the study however contradicts Kolawole (2002) and Popoola (2008) that gender has influence on students learning in Science and Mathematics. The study showed that gender has

no influence on the learners taught with guided and demonstration methods. The findings showed that guided method has similar effect on enhancing both male and female to learn numeracy skills in early childhood education. The findings also showed that demonstration method has the same effect on the achievement of early primary school pupils in numeracy skills.

2.4 Time Allocation for play and Children's Academic Performance

The intervention resulted in increased time allocation to two of the three targets instructional activities whereas customised embedded reinforcement resulted in increased time allocation to all three targeted activities. According to Sarachoand (1995), teachers who do not take children out for out- door activities as often as every day hurts their feeling due to satisfaction associated with play. This act of not allowing children to participate in out-door activities makes them miss an opportunity to develop varied skills (Cammilleri and Hanley, 2003).Other times, children may interact only briefly with a wide variety of activities, failing to develop complex, skill repertoires through persistent engagement with particular activities (Jacobson, Bushell, and Risley, 1968). Although ideal patterns of time allocation among free-play activities are not yet known, techniques to promote the changes in distribution of engagement described in the current study as well as those from Jacobson, Bushell and Risley(1968) and Cammilleri and Hanley (2003) can be applied in pre-school classrooms to transition from either end of the continuum.

Oluwatayo (2012) in preliminary analyses, sought to discover whether children who had invested more time in play performed better on cognitive skills than those who played less. Before making any comparisons, the study first determined whether the groups shared

equivalent demographics. It was found that no significant differences between the high and low playtime groups when the researcher examined the age of parents, the educational level of parents, family income, the number of years of couples' marriages, the number of years they were employed, and the number of years they had resided in the United States ($p > .05$). Also the high and low play groups included nearly equivalent numbers of boys and girls, of children in the same birth order, and of children with parents having different occupational statuses (such as full-time employment, part-time employment, and types of jobs). Independent t -tests revealed no significant differences between the high and low playtime groups in early academic performance based on either mothers' or fathers' reports ($p > .05$). Likewise, it was found that there was no significant difference between the groups investing a low amount of time in academics and the group investing a high amount of time. Nor did the researcher find differences on any of the early academic performance measures between the group whose parents believed in the cognitive benefit of play and the group whose parents did not believe in the cognitive benefit of play.

Luke & McArdle (2009) emphasize that, play activity has remained static. The time learners spend playing has declining in preschool. Most preschools do not attain the amount of time recommended by experts. Lester & Russell (2008) noted lack of available data examining children's use of time and space, and therefore exploring whether children's time to play has increased or decreased in the United Kingdom is difficult to track. However, evidence from the United States suggests that today's children have significantly less time for free play than previous generations.

In a study carried out by Frost (2010) on children's changing play guides across two time frames; between 1981 and 1997; and between 1997 and 2003 in which parents and children kept 24-hour diaries (one for a school day and one for a non-school day) and monitored the amount of time children spent in 18 different activities. The findings point out that children's free play and discretionary time (in other words, time that is not spent in school, childcare and so on) has declined by more than seven hours from 1981 to 1997 and by a further two hours to 2003. This research concludes that children in the US are receiving nine hours less free time a week than 25 years ago. With regard to time, Frost (2010) argued that if more time is assigned to play children can explore in-depth whatever meanings are to be developed during play because they will be able to create meaningful pretend frames. As play in its varied forms is a serious business for children. It is only when teachers allocate ample time and space for children's play that they can engage in receptive interactions with children as they play.

According to Tarman & Tarman, (2011) if literacy enriched settings, adequate time and facilitative teacher involvement are in place, socio-dramatic play can function as an ideal medium for children to construct their own knowledge about literacy, since its 'low -risk' atmosphere encourages experimentation with emergent forms of reading and writing. Despite these benefits, Lester & Russel, (2008) added that, there is evidence to that suggest less of children's time is being devoted to play, in favour of structured or educational activities. Elkind (2008), claims that the role of play in physical and psychological well-being has been 'overlooked' in many areas. In Kenya, ECDE curriculum has a stipulated play activity time in the school timetable which should be followed by all schools (RoK, 2006).

Table 4 indicated that there are adequate and enough hours of PE in the school time table (mean = 4.1591, S.D = 0.6929). This concurs with Tarman & Tarman (2011) who stated that, there is need for provision of adequate physical spaces and props to support play as well as the need to allow ample time for children's free play in the preschool daily schedule. Results suggest that ECDE have provided adequate and enough hours for play in their time tables which was used for play activities but not for teaching other subjects, however, teachers believed that play activities took a lot of time while teaching. Children were provided with adequate time during play activities which implies that children in ECDE may be in a good position to interact with various types of play activities in their schools.

2.4 Theoretical Framework

This study will be hinged on Froebel's (1852) theory, which states that play is a serious and deeply significant activity for young child. Froebel viewed kindergartens as institutions where children instruct and educate themselves and where they develop and integrate all their abilities through play. According to Froebel's philosophy, children learning through play are indeed a basic tenet. He further asserts that play is important for children to learn; and therefore so play, like any other learning activity has its own definite period of time and it must not be left out of the elementary curriculum.

Froebel came up with some principles which stated that learning begins at birth. Every child develops at his or her own pace, but teachers can stimulate and encourage learning. Young children learn best through play. To supplement Froebel's (1885) theory, a study by Wortham (1990) recommended that curriculum for young children should include activities and experiences provided by teachers and also all that they see and hear in the environment

around them. Play-based instruction in pre-school calls for utilisation of different types of play methods such as music, sand and water play, painting, junk modelling, role play and pretending which engage the mind of a child. The content should therefore be programmed in such manner that the child in a spiral manner can easily grasp it.

2.5 Conceptual framework

Conceptual framework consists of ideas about relationships between variables in a study and showing relationships graphically or diagrammatically (Mugenda and Mugenda, 2003). The conceptual framework of this study is based on the idea that plays makes great differences in school performance.

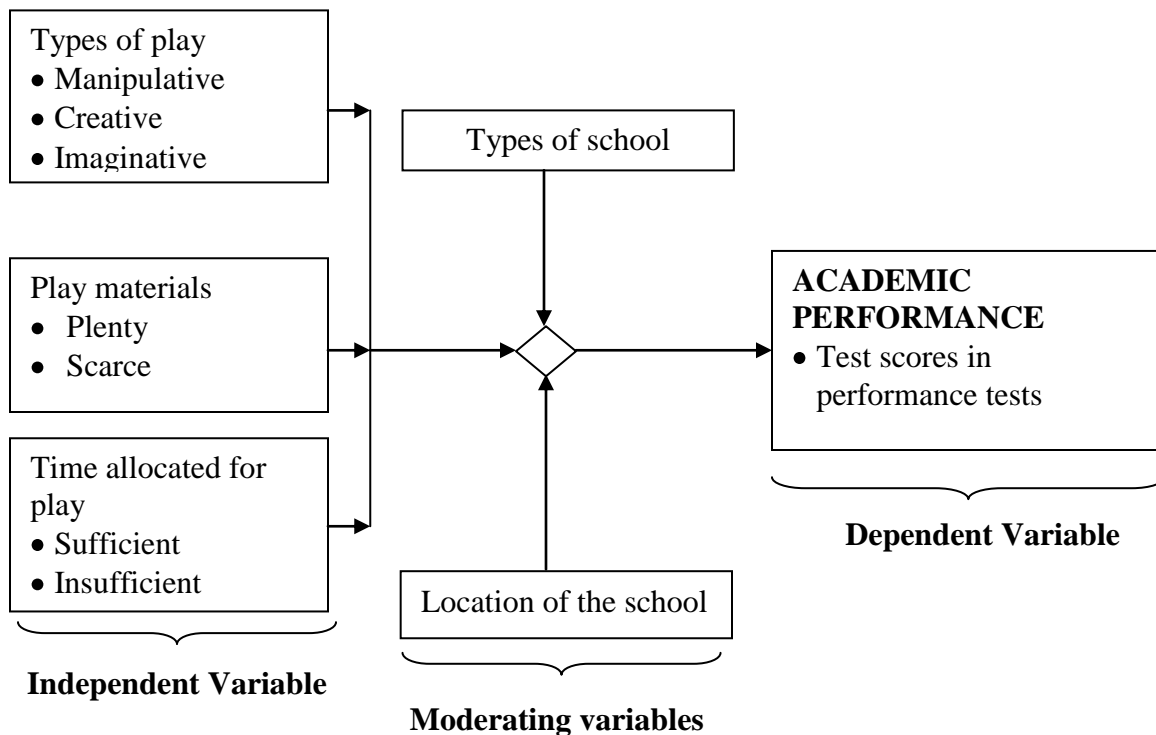


Figure 1.1: Conceptual framework on the influence of play on academic performance

The conceptual framework shows the relationship between the independent and dependent variables (Figure 1.1). The figure shows that children’s academic performance (dependent

variable) is affected by types of play materials, types of play and time allocated for play (independent variables). This is however determined by moderating variables which include the types of school and location of the school.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the researcher describes research design, target population, sampling procedure, instruments, validity and reliability. It also involves procedure for data collection, data analysis and ethical concerns.

3.1 Research Design

The study employed quasi-experimental research design, which has a characteristic of experimental research design except that the participants were not assigned their groups randomly (Kothari 2004). This design was best for this study because it allowed human characteristics to be observed where in this study the academic performance of pre-school children played who had play materials and those who did not have; children who were allocated plenty of play time and those who were not and children who were exposed to different types of play and those who did not was determined by comparing performance test scores. The researcher manipulated independent variables which are types of play, play materials and time allocated for play. This was done by varying the types of play used by teachers when teaching, varying the play materials used by pre-school children and varying time allocated to play activities.

The researcher selected two groups of children in from public and private pre-schools. One group of children in each school was made a control group and the other one was an experimental group. The researcher selected two teachers who had been trained to act as assistants. The pre-test was administered to children in both groups and the performance test

scores determined and compared. After the pre-test, children in the experimental group were taught while being exposed to different types of play materials, types of play and varied play time. Those in the control group on the other hand were taught without play materials. After one week, a post test was administered to the children in the two groups and the test scores compared.

3.2 Target Population

Kothari (2004) defines target population as all members of a real or hypothetical set of subjects/people/events to which a researcher wishes to generalise results of the study. Also Kasomo (2006) describes target population as the aggregate of all cases that conform to designate sets of specifications to which the study generalised the results. The target population for this study included all the 60 public pre-schools and private pre-schools in Yatta district. In these schools, there are 1800 pre-school children and 62 pre-school teachers.

3.3 Sampling Procedure

The researcher used stratified random sampling to select the sample for this study. Schools were stratified according to school category as private and public preschools. To get the sample size of the study the researcher used purposive sampling to selected one well performing public school and one which performs poorly. This was repeated for private pre-schools where one well performing school and one poor performing school were selected. To arrive at the sample of teachers, the research used purposive sampling technique to select 2 preschool teachers from each school i.e. one baby class teacher and one nursery school teacher. The sample of teachers was 8.

3.4 Research Instruments

The main tools for data collection were questionnaires and the performance test.

3.4.1 Teachers' Questionnaires

This questionnaire was used to obtain information on the availability and state of play facilities in pre-schools. This was based on the objectives of the study.

3.4.1 Performance Test

The researcher used performance test as an instrument to examine the performance of pre-school children in relation to types of play, materials for play and time allocated for play. The test comprised of 7 questions that required children to name the family members; count and write; match pictures of family members and draw and colour pictures.

3.5 Validity and reliability

3.5.1 Validity of instruments

Validity of a research instrument is the measure of degree to which a research instrument measures what is intended to by the study (Borg and Gall, 2004). The questionnaire used in this study was validated by constructing it in consultation with the supervisor to ensure that all the items would assist in achieving the purpose of the study. For the content validity, the instruments were piloted by being administered to respondents before the actual study time. Based on their responses, the researcher clarified any item before the main study. The pilot performance test was also administered to children in 1 public and a private school. These schools were exempted from the main study.

3.5.2 Instrument Reliability

In order to improve the reliability of the instrument, an assessment of the consistency of the responses on the pilot questionnaire was done. Test-retest technique of reliability testing was used whereby the questionnaires were administered twice with a one week interval, to allow for reliability testing. The performance test was also administered to pupils in the control and experimental groups. The pre-test was administered to the two groups after lessons without play materials. The second was administered after one week after lessons in which children in the experimental group were taught using play materials while those in the control group were not. The scores were then correlated using Pearson Product-Moment Correlation formula to determine the reliability coefficient.

$$r_P = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}},$$

Where X and Y are the sample mean of X_1, X_2, \dots, X_n and Y_1, Y_2, \dots, Y_n , respectively. The results of 0.7264 for the questionnaire and 0.6287 for the performance test were obtained and accepted based on the recommendations by Mugenda and Mugenda (1999).

3.6 Data Collection Procedure

The researcher obtained a permit from the National Commission for Science and Technology. A preliminary visit was made to each school to inform the teachers of the intended research. The researcher then visited the schools and administered the questionnaire to teachers and trained teachers on how to administer the performance test. Another day was identified when the researcher again visited the schools and requested teachers to administer to pretest to children in both groups. During this time, the trained teachers to prepare to teach a lesson with

play materials for children in the experimental group and a lesson without play materials for children in the control group. Afterwards a post test was administered to children in both groups and their test score compared.

3.7 Data Analysis

The researcher computed the mean score form the experimental and control groups for the pre-test to determine the baseline performance for the two groups. The mean score of the post test for the two groups was computed to compare the performance of children who were taught using play materials and those taught without play materials. The results from the two tests were used to calculate the regression to draw conclusions on the relationship between play and academic performance. Qualitative data obtained from open-ended questionnaire were analyzed using content/narrative. Content/narrative analysis is ideal for analysing qualitative data obtained from open-ended questions as it allows for detailed reporting of accounts of respondents in relation to the subject of investigation (Bryman, 2008). Quantitative data obtained from closed ended questionnaire items were analyzed using descriptive statistics such as frequencies and percentages. Descriptive statistics best suited for reports which contain a significant amount of qualitative or quantitative data (Bryman, 2008).

3.8 Ethical Concerns

The ethical considerations to be taken into account in this study included ensuring that the study remained original in content and design. Informed consent to carry out the study in the pre-schools was sought from the pre-school administration and the names of the schools and those of children to participate in the study were not revealed.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis, interpretation and discussion of findings based on the research objectives under the following themes: Types of play materials and academic performance, types of play and academic performance and the effect of play time on children's performance.

4.2 Demographic Information of Respondents

This section presents the demographic information of teacher in terms of gender, professional qualifications and working experience.

4.2.1 Preschool Teachers' Gender

The researcher asked preschool teachers to state their gender. The findings are as shown on Table 4.1.

Table 4.1: Gender of Respondents

Gender	Frequency	Percentage
Male	3	37.5
Female	5	62.5
Total	8	100.0

The study findings revealed that 62.5% of the teachers were female while 37.5% were male. The findings are an indication that majority of teachers in preschools were female which shows that females have a higher preference to teach in preschool than male teachers.

4.2.2 Teachers Highest Professional Qualifications and Working Experience

The researcher asked preschool teachers to state their highest professional qualifications and working experience. Their responses are as shown on Table 4.2.

Table 4.2: Teachers' Highest Professional Qualifications and Working Experience

Professional qualifications			Working experience		
Qualification	F	%	Number of years	F	%
KCSE certificate	1	12.5	Less than 1 year	1	12.5
Certificate in ECDE	4	50.0	1 to 2 years	3	37.5
Diploma in ECDE	2	25.0	3 to 4 years	1	12.5
Primary teacher certificate	1	12.5	Above 5 years	3	37.5
Total	8	100.0	Total	8	100.0

The findings show that 50.0% of the teachers were holders of ECDE certificate, 25.0% had diploma in ECDE, 12.5.0% had KCSE certificate while another 12.5% were holders of primary teacher certificates and masters' degrees. The findings are an indication that majority of the preschool teachers had undergone the required training to enable them effectively implement the preschool curriculum. A number of them had also acquired additional professional training. These teachers are therefore expected to possess knowledge and skills on use of play in curriculum implementation. The results also show that 37.5% of teachers had taught for 1 to 2 years and above 5 years respectively while 12.5% had taught for less than 1 year and 3 to 4 years respectively. The findings are an indication that most teachers had taught for some time and therefore were knowledgeable of use of play for instruction in preschools.

4.3 The Type of Play Materials and Academic Performance

The first objective of the study was to establish the type of play materials in schools and their effect on pupils' academic performance. The results are as discussed in the following sections.

4.3.1 Children's Performance when without exposure to play materials in the pre-test

The researcher sought to determine the performance of pupils in the pre-test. The results are as shown on Table 4.3.

Table 4.3: Pupils' Performance in the Pre-test

	Control Group	Experimental Group
School	Mean School	Mean score
School A	7.2	8.1
School B	6.8	7.4
School C	6.3	6.6
School D	5.8	6.2

The study findings show that in the pre-test, pupils in the control group from School A had a mean score of 7.2 and 8.1 in the experimental group. Pupils in school B had a mean score of 6.8 in the control group and 7.4 in the experimental group. Pupils in School C had a mean score of 6.3 in the control group and 6.6 in the experimental group. Lastly, pupils in School D had a mean score of 5.8 in the control group and 6.2 in the experimental group. The findings show that performance of pupils in the control group and experimental group were closely similar. This is due to the fact that children in both groups had undergone instruction without play materials. These findings concur with Hanley & Tiger (2011) who noted that play

facilities and materials in children’s play add value to academic achievement and that children learn best when they are part of a secure and stimulating environment full of play materials for manipulation.

4.3.2 Pupils’ Performance in the Post-test

The study sought to establish the post test results in pre-schools where only pupils in the experimental group were exposed to play materials. The findings are as shown on Table 4.4.

Table 4.4: Test Results where Pupils were exposed to more Play Materials

School	Control Group		Experimental Group	
	Pre-test Mean Score	Post test Mean Score	Pre-test Mean score	Post test Mean Score
School A	7.2	7.3	8.1	12.1
School B	6.8	7.0	7.4	10.0
School C	6.3	6.4	6.6	8.4
School D	5.8	6.0	6.2	7.2

The results on Table 4.4 show that after pupils in the experimental group were exposed to play materials, those from School A had a mean score of 12.1 up from 8.1 while their counterparts in the Control group had a mean of 7.3 up from 7.2. In school B, those in the experimental group had a mean of 10.0 up from 7.4 while those in the control group had 7.0 up from 6.8. In school C, pupils in the experimental group had a mean on 8.4 up from 6.6 while those in the control group had 6.7 up from 6.3. Lastly, in School D, pupils in the experimental group had a mean score of 7.2 up from 7.2 while their counterparts in the control group had a mean of 6.0 up from 5.8. The findings show there was an improvement in

the post test for both pupils in the control group and the experimental group. However, those in the experimental showed greater improvement in the mean score. This is an indication that that after being exposed to play materials children's academic performance improved which means that play materials enhances pupil's academic performance. The findings concur with a study by Zigler (2008) which revealed that quality-learning environments support children's learning with a rich variety of materials that enable them to explore and make discoveries. Zigler (2008) suggested that provision of play materials stimulates children's interest in the learning activities. The study noted that young children join pre-schools with a broad range of experiences and a high level of interest using a variety of technologies, involving computers, digital cameras, mobile phones and many hand held devices making new technologies available alongside traditional materials like blocks enables and extends playful explorations.

4.3.3 Test Results for Children Exposed to different Play Materials

In order to determine the influence of specific play materials on academic performance, pupils' performance was examined in respect to different play materials. The results are as presented on Table 4.5.

Table 4.5: Test Results for Children Exposed to Play Materials

	Post-test	Pre-test
Type of play	Mean Score	Mean Score
Number board	7.1	12.7
Balls	6.2	10.0
Skipping robe	5.6	9.3
Swing	5.5	8.4
Tires	5.7	7.2

The findings on Table 4.5 show when children were exposed to the number board, their mean score improved from 7.1 to 12.7. When exposed to play balls, their mean improved from 6.2 to 10.1. The findings further show that when children were exposed to the skipping robe, their mean score improved from 5.6 to 9.3. Lastly when exposed to tires, their mean score improved from 5.7 to 7.2. The findings show that when exposed to different play materials, there was varied improvement in the performance mean score. It was found that play using the number board yielded higher scores especially in arithmetic followed by robes and then the skipping robe. It can therefore be concluded that use of different play materials had a positive effect on academic performance of preschool children. These findings concur with This is in line with Siegler and Ramani (2009) who noted that preschoolers who earlier had played the linear board game learned more from subsequent training on arithmetic problems than peers who had played the linear board game. We predicted that learning answers to arithmetic problems in part reflects appropriate numerical magnitude representations, and that playing the linear board game produces such representations.

4.3.4 Regression Results between Play Materials and Pupils Performance

The regression test was done to establish whether there a significant relationship between play materials and pupils performance in examination. The regression results are as shown in Table 4.6.

Table 4.6: Regression results between Play Materials and Pupils' Performance

Variable	True value	Estimated value	Standard error	t-statistic	Prob (2 – tail)
Constant	5.0	4.1367	3.781	1.094	.002
Number board	10.0	15.846	2.881	5.5	.000
Balls	5.0	6.4	2.73	0.236	.001
Skipping robe	3.0	2.417	8.08	2.992	.002
Swing	-2.0	-1.470	1.402	-1.049	.003
Tires	-3.4	-2.5	1.134	-2.567	.004

$$R^2 = .646$$

According to Table 4.6, the number board was found to have the most significant relationship with children's academic performance ($\beta = 10.0$; $p = .000 < 0.05$). The second was balls ($\beta = + 5.0$; $p = .001 < 0.05$); skipping robe ($\beta = 3.0$; $p = .000 < 0.02$); the swing ($\beta = -2.0$; $p = .000 < 0.03$) and lastly tires ($\beta = -3.4$; $p = .004 < 0.05$). The overall R^2 obtained was .646 which is an indication that play materials have a significant effect on preschool children's academic performance. It can therefore be concluded that play materials have a significant effect on academic performance of children in pre-schools. Most preschool teachers were of the view that the number board and play balls improve children's numerical knowledge. They also added that skipping ropes enhances children's oral skills attributed to the play songs which

they sing while skipping the robes. Teachers also revealed that tyres enhance children's distance estimation and geometry skills. The findings concur with Mwangi and Njuguna (2009) who indicated that exposing children to more play materials enables children use their hands, develop their eye-hand co-ordination as they usually concentrate carefully on what they are doing. The use of variety play materials was also emphasised by Howard (1982), who asserted that more play materials encourages the use of the whole (hand and arm), leg to grasp, push, hit, pick up, or release - for example, throwing a ball.

4.4 Types of Play and Academic Performance

The second objective of the study was to determine how types of play affect children's academic performance in Yatta Sub-County.

4.4.1 Test Results from pupils exposed to types of play and those not exposed

The study sought to establish effect of types of play on academic performance. The results are as presented on Table 4.7.

Table 4.7: Test Results from pupils exposed to types of play and those not exposed

	Control Group			Experimental Group		
	Pre-test	Post test	Mean Difference	Pre-test	Post test	Mean Difference
School A	11.2	11.2	0	12.2	12.7	0.5
School B	5.7	5.1	-0.6	6.3	9.3	3
School C	7.3	7.6	0.3	8.3	10	1.7
School D	6.8	7.1	0.3	8.0	10.5	2.5

The findings show that in school A, the performance of pupils not exposed to types of play in the control group remained the same at 11.2 however, in the experimental group, the mean score improved from 12.2 to 12.7. In School B, performance in the control group dropped from 5.7 in the pre-test to 5.1 in the post test while in the experimental group, the mean score improved from 6.3 to 9.3. It was also revealed that in School C, the mean score in the control group improved from 7.3 to 7.6 while in the experimental group, the mean score improved from 8.3 to 10. Lastly, in School D, mean score in the control group improved from 6.8 to 7.1 while in the experimental group, the mean score improved from 8.0 to 10.5. This shows that there was greater improvement in the mean score between the pre-test and post test when children were exposed to types of play.

4.4.2 Test Results for Children Exposed to Different Types of Play

In order to determine the influence of types of play on academic performance, pupils were given an examination and the results are as presented on Table 4.8.

Table 4.8: Test Results for Children Exposed to different types of Play

	Pre-test	Post-test
Type of play	Mean Score	Mean Score
Teacher initiated play	9.1	12.2
Guided play	7.8	8.3
Role-plays, sports and games	7.4	8.4
Group play	7.0	8.0
Independent play	5.8	7.9

The findings on Table 4.8 show when exposed to teacher initiated play, children's mean score improved from 9.1 to 12.2. It was also revealed that when guided play was used, children's mean score improved from 7.8 to 8.3. The study further revealed that when role play was used, children's mean improved from 7.4 to 8.4. The study also established that when group play was used, children's mean score improved from 7.0 to 8.0. Lastly, when independent play was used, the mean score of children improved from 5.8 to 7.9. The findings show that when children were exposed to teacher initiated and guided play, they tended to record the highest improvement in their mean score. Role play and group play were also found to significantly enhance children's academic performance. It can therefore be concluded that use of different types of play has a positive effect on academic performance of preschool children.

These findings concur with Tsung-Hui & Wei-Ying (2008) who illustrates that use of guided play, group play and independent play enhances academic performance among preschool children. ECDE teachers may set up appropriate, stimulating environment for young children but decide to stand back and may not follow up with supervision, supportive, reactive interactions with the children as they play. Teacher's involvement in play enriches children's play and develops children's intellectual and social skills. On the other hand, if teachers give more structured cognitive activities through play and take over the control of play at that time teacher intervention interrupts children's play.

Research by Johnson et al. (2005) and Van Hoorn et al (2003) suggests that children benefit from both unstructured play and from teacher-guided play. Roskos, Tabors, and Lenhart (2004) describe guided play as play structured to teach academic skills and concepts. Guided play has tremendous potential for language and literacy learning. Guided play can include

direct participation of adults (Van Hoorn et al. 2003). Though adults have goals or targets they hope to meet through such play, they must also remain sensitive and responsive to children's behaviors (Christie and Enz 1992; Christie and Roskos 2006). However, the efficacy of using guided play in teaching language skills has not been fully tested.

4.4.3 Regression Results between Types of Play and Pupils Performance

The regression test was done to establish whether there is relationship between play materials and pupils performance in examination. The regression results are as in Table 4.9.

Table 4.9: Regression results between types of play and pupils performance

Variable	True value	Estimated value	Standard error	t-statistic	Prob (2 – tail)
Constant	5.0	4.7842	9.454	5.060	.000
Teacher initiated play	10.0	1.1462	7.2	1.5913	.000
Guided play	5.0	3.91	6.8	5.741	.000
Role-play	3.0	2.854	2.02	1.4131	.000
Group play	-2.0	-1.8676	3.505	-5.328	.000
Independent play	-2.642	-2.14	0.935	-1.864	.000

$R^2 = .964$

According to Table 4.9, teacher initiated play had the most significant relationship with children's academic performance ($\beta = 10.0$; $p = .000 < 0.05$). The second was guided play ($\beta = + 5.0$; $p = .000 < 0.05$); role play ($\beta = 3.0$; $p = .000 < 0.05$); group play ($\beta = -2.0$; $p = .000 < 0.05$) and independent play ($\beta = -2.642$; $p = .000 < 0.05$). the regression value of $R^2 = .964$ tends towards 1 and therefore it can therefore be concluded that different types of play have a significant effect on academic performance of children in pre-schools. Teachers noted that that guided

play has tremendous influence on language and literacy learning and that role or pretend was associated positively with the size of children's vocabularies. Teachers also revealed that specially guided interactions with teachers in playful contexts increases children's vocabularies. Another teacher said that dramatic play enhances children's comprehension of stories through "re-enactments and that talk about play, referred to as "metaplay," enhances children's later reading and writing. The study findings are an indication that guided play, pretend play, specially guided interactions with teachers in playful contexts, dramatic play talk about play or metaplay, playing the number board game and playing the linear board game enhances children's academic performance.

These findings concur with a research by Johnson and Wandle (2005) and Van Hoorn, Nourot, Scales, and Alward (2003) suggest that children benefit from both unstructured play and from teacher-guided play. Roskos, Tabors, and Lenhart (2004) describe guided play as play structured to teach academic skills and concepts. Guided play has tremendous potential for language and literacy learning. Guided play can include direct participation of adults (Van Hoorn et al. 2003). Though adults have goals or targets they hope to meet through such play, they must also remain sensitive and responsive to children's behaviors (Christie and Enz 1992; Christie and Roskos 2006). However, the efficacy of using guided play in teaching language skills has not been fully tested.

Pellegrini and Galda (2010) reported that preschoolers use complex mental-state verbs such as *say*, *talk*, *tell*, *write*, and *explain* when they are engaged in make-believe play. Dickinson and Moreton (2011) echoed this finding, noting that three-year olds talking more in pretend play was associated positively with the size of their vocabularies when they began kindergarten

two years later. The advanced language capabilities that emerge in play offer not only a window into children's growing competencies but also a link to their literacy. Singer and colleagues (2009) wrote that play is crucial for oral language skills, which is the basis for later reading skills, and that children learn best through playful, guided interactions. Specially guided interactions with adults in playful contexts increase children's vocabularies (Roskos, Tabors, and Lenhart 2009). Hence, there is a strong warrant in play to support vocabulary development in young children.

In play, children try out new ways of combining thought and language; for example, by using language to represent new ideas not tied to reality. Since dramatic play is symbolic in nature it can provide a "bridge" to printed language. Dramatic play enhances children's comprehension of stories through "re-enactments." Children use decontextualized language within the context of dramatic play and in recounting events derived from personal experience in their play. Talk about play, referred to as "metaplay," is an indicator of children's ability to think about language and has been associated with children's later reading and writing. Children's language is enhanced when adults and older children scaffold their play, particularly in complex socio-dramatic play, when children must keep in mind their own and others' roles and can even "plan" their play. This kind of play is reported to foster self-regulation.

4.5 Effect of time allocated for play on children's Academic Performance

The third objective of the study was to establish whether the time allocated for the play materials is adequate.

4.5.1 Time Allocated for Play

The researcher asks teachers to indicate the amount of time they allocate for play in their schools per day. The results are as presented on Table 4.10.

Table 4.10: Time Allocated for Play

Time allocated for play	Frequency	Percentage
Less than 1 minute	1	4.7
30 minutes to 1 hour	2	9.5
1 hour to 2 hours	12	57.1
2 hours to 3 hours	4	19.0
More than 3 hours	2	14.2
Total	21	100.0

The findings revealed that 57.1% teachers allocated between 1 hour and 2 hours for play followed by 19.0% who have allocated between 2 to hours and 3 hours, 14.2% allocated more than 3 hours while 9.5% allocated between 30 minutes and 1 hour. The findings are an indication that most teachers allocated more than 1 hour for play. The findings concur with Frost (2010) on children's changing play guides across two time frames; between 1981 and 1997; and between 1997 and 2003 which pointed out that children's free play and discretionary time (in other words, time that is not spent in school, childcare and so on) has declined by more than seven hours from 1981 to 1997 and by a further two hours to 2003. This research concludes that children in the US are receiving nine hours less free time a week than 25 years ago. With regard to time, Frost (2010) argued that if more time is assigned to

play children can explore in–depth whatever meanings are to be developed during play because they will be able to create meaningful pretend frames.

4.5.2 Test Results for Time allocated to Play

In order to determine the influence of time allocated for play on academic performance, children were given an examination and the results are as presented on Table 4.11.

Table 4.11: Test Results for Time allocated to Play

Play time	Experimental Group		Control Groups	
	Pre-test Mean score	Post test Mean	Pre-test Mean	Post test Mean
Less than 1 minute	5.5	7.9	5.2	6.0
30 minutes to 1 hour	6.2	8.3	5.5	6.2
1 hour to 2 hours	6.5	8.8	5.8	6.4
2 hours to 3 hours	6.8	9.8	6.0	6.8
More than 3 hours	8.1	12.2	6.2	7.1
Maximum Score	6.62	9.4	5.74	6.5

The findings on Table 4.11 show that before being exposed to play, the average score of children in the experimental group was 6.62 and went up to 9.4 for the post test. The study also established that when exposed to play for less than a hour, the mean score was 7.9 and rose to 8.3 when 30 minutes to a hour were allocated for play, 8.8 when 1 to 2 hours was allocated to play, 9.8 when 2 to 3 hours were allocated for play and 12.2 when more than 3 hours was allocated for play. There was not significant change in the mean score of children in the control group as they were not exposed to play during these durations. The findings are

an indication that academic performance of children increases with increase in time allocated for play and therefore play time has a significant effect on academic performance. The findings are in line with Luke & McArdle (2009) emphasize that the time learners spend playing has a significant effect on the academic performance in ECDE.

4.5.3 Regression Results between Play Time and Pupils Performance

The regression test was done to establish whether there is relationship between time allocated for play and preschool pupils' performance in examination. The regression results are as presented on Table 4.13.

Table 4.13: Regression Results between Play Time and Pupils Performance

Variable	True value	Estimated value	Standard error	t-statistic	Prob (2 – tail)
Constant	5.0	9.806	4.6538	2.107	.041
Less than 1 minute	-2.0	1.213	6.4	1.432	.000
30 minutes to 1 hour	-2.0	1.075	2.56	4.173	.000
1 hour to 2 hours	3.0	2.569	1.03	2.487	.017
2 hours to 3 hours	5.0	-1.8676	3.505	-5.328	.000
More than 3 hours	10.0	-2.445	1.779	-1.375	.176

$$R^2 = .408$$

According to Table 4.13, play time of more than 3 hours had a very significant relationship with children's academic performance ($\beta = 10.0$; $p = .000 < 0.05$). The second was allocating play time of 2 to 3 hours ($\beta = + 5.0$; $p = .000 < 0.05$) and then 1 to 2 hours ($\beta = 3.0$; $p = .000 < 0.05$). The findings are an indication that allocation of more time for play has tremendous

influence on children's academic performance. The findings disagree with Oluwatayo (2012) in preliminary analyses, which sought to discover whether children who had invested more time in play performed better on cognitive skills than those who played less. It was found that no significant differences between the high and low playtime groups ($p > .05$).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study and presents conclusions, recommendations and suggestions for further research.

5.2 Summary

The purpose of this study was to investigate the effect of play on children's academic performance in Yatta Sub-County, Machakos County, Kenya. The study was guided by three objectives which focused on types of play, play materials and time allocated to play and their effect on pupils' performance. The literature review addressed issues of types of play on children's academic performance, play materials on children's academic performance and time allocation for play on children's academic performance. The study was hinged on Froebel's (1852) theory, which states that play is a serious and deeply significant activity for young child. Froebel viewed kindergartens as institutions where children instruct and educate themselves and where they develop and integrate all their abilities through play. The study employed quasi-experimental research design and the target population of the study was all the 60 public pre-schools and private pre-schools in Yatta district with a population of 1800 pre-school children and 62 pre-school teachers. The tools for data collection were questionnaires for teachers and performance test. The data was analyzed by use of SPSS programme where it was coded and then fed into the programmes template.

The first objective of the study sought to establish the type of play materials in schools and their effect on pupils' academic performance. The findings show that pupils in the

experimental group were exposed to play materials, there was a great improvement in the mean score than for those in the control group who were not exposed to play materials. This is an indication that after being exposed to play materials children's academic performance improved which means that play materials enhances pupil's academic performance. The findings show that when exposed to different play materials, there was varied improvement in the performance mean score. It was found that play using the number board yielded higher scores especially in arithmetic followed by ropes and then the skipping rope. It can therefore be concluded that use of different play materials had a positive effect on academic performance of preschool children.

The second objective of the study was to determine how types of play affect children's academic performance in Yatta Sub-County. The findings showed that there was greater improvement in the mean score between the pre-test and post test when children were exposed to types of play. It was found that when children were exposed to teacher initiated and guided play, they tended to record the highest improvement in their mean score. Role play and group play were also found to significantly enhance children's academic performance. It can therefore be concluded that use of different types of play has a positive effect on academic performance of preschool children. The third objective of the study was to establish whether the time allocated for the play materials is adequate. The findings revealed that there was a significant change in the mean score of children with increase in time allocated for play and therefore play time has a significant effect on academic performance.

5.3 Conclusion

The study sought to establish the effect of play on preschool children's academic performance. It was found that use of different play materials had a positive effect on academic performance of preschool children. Using the number board yielded higher scores especially in arithmetic followed by robes and then the skipping robe. There was also greater improvement in the mean score between the pre-test and post test when children were exposed to types of play. When children were exposed to teacher initiated and guided play, they tended to record the highest improvement in their mean score. Role play and group play also significantly enhanced children's academic performance. Lastly, there was a significant change in the mean score of children with increase in time allocated for play and therefore play time has a significant effect on academic performance.

5.4 Recommendations

Based on the findings of the study, it is recommendation that;

- (i) The teachers need to create more time for the pupils to be engaged on play materials. This would expose pupils to more activities indicated that exposing children to more time of play enables children use their hands, develop their eye-hand co-ordination as they usually concentrate carefully on what they are doing
- (ii) The study also recommends that, there is need to use more play materials in school. The more the materials the more pupils learn
- (iii) The other recommendation is that there is need to create adequate space for play. If the classroom is very squeezed, there will be no room to engage pupils in a physical activities in class

- (iv) The study also recommends that teachers need to be innovative and come up with more playing materials driven from the school environment. This would reduce the cost of buying more materials for the pupils

5.5 Suggestions for Further Studies

In a bid to build on the findings of this study, the researcher suggested that studies can be carried out on;

- a) The effect of play on children's academic performance in a bigger region like a county. This would help in generalising results
- b) A study can also be carried out on the perception of the teachers on the use of play in schools which was out of the scope of the current study.

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APPENDICES

APPENDIX I

TRAINING MODULE FOR TEACHERS USING DIFFERENT PLAY MATERIALS, DIFFERENT TYPES OF PLAY AND PLENTY OF TIME

Training module for teachers using Different play materials, Different types of play and plenty of time

Teacher	Types of Play	Time Duration	Materials of Play	Response/Remarks
Public teacher	✓	1 hour	✓	
	✓		✓	
	✓		✓	
	✓		✓	
	✓		✓	
	✓		✓	
Private teacher	✓		✓	
	✓		✓	
	✓		✓	
	✓		✓	
	✓		✓	

Training module for the two teachers without material, few types of play and limited time

Teacher	Types of Play	Time Duration	Materials of Play	Response/Remarks
Public teacher	✓	20 minutes	✓	
Private teacher	✓			

APPENDIX II

QUESTIONNAIRE FOR PRESCHOOL TEACHERS

Demographic Information

- 1. Please indicate your gender.....
- 2. Please indicate your highest professional qualifications.....
- 3. Please indicate how long you have worked as a preschool teacher.....

Influence of Play materials on Academic Performance

- 4. Please list the types of play materials available in your school.....
.....
.....
.....
.....
- 5. Are the play materials available in your school adequate?
Yes
No

Type of play materials and Academic Performance

- 6. Please indicate how the following play materials affect the performance of preschool children
Number board.....
.....
.....
Play balls.....
.....
.....
Skipping robe.....
.....
.....
.....

Tyres.....
.....
.....
.....
.....

Type of play on Academic Performance

7. Please indicate how the following types of play affect the performance of preschool children

Teacher initiated play.....
.....
.....

Guided play.....
.....
.....

Role play.....
.....
.....

Independent play.....
.....
.....

Influence of time allocated for play on children's Academic Performance

8. How much time is allocated for play in your school?

- Less than 30 minutes
- 30 minutes to 1 hour
- 1 hour to 2 hours
- 2 hours to 3 hours
- More than 3 hours

9. Do you consider the time allocated for play adequate? Yes No
10. Are pupils satisfied with the time allocated for play? Yes No

APPENDIX IV
PERFORMANCE TEST

Date.....

The purpose of this performance test will be to gather information concerning play and children’s academic performance in Yatta Sub-County. The pre-school identity will be treated with strict confidentiality and information to be obtained will be used for academic purpose only.

Instructions to the pre - school children

The performance test contains two test for each school and test 1 and test 2 for each school making a total of four tests. The two tests for each school will be the same to make sure all the participants have been tested the same way. The test will be administered at an interval of 1 week as follows.

Test 1: Teaching without materials, limited types of play and limited time.

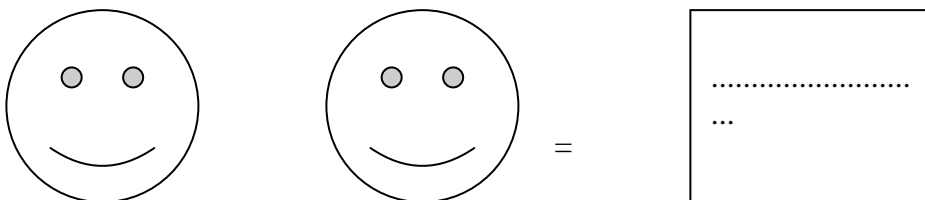
Test 2: Teaching with plenty materials, many types of play and unlimited time

Name..... **School**.....

1. Name the family members in the following

.....

2. Count and write



3. Match the following pictures of the members of the family

.....

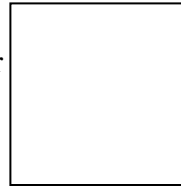
.....

4. Draw and colour the following

(a) Brother



(b) sister



(c) Father



5. My father's name is.....

6. This is a picture of (mother or father)



7. What do you use to model family members?(clay, pencil)

APPENDIX V

SCHEME OF WORK FOR TEACHERS TEACHING WITH LIMITED MATERIALS, LIMITED TYPES OF PLAY AND LIMITED TIME

YearTerm.....Age.....Class

Duration	Theme	Sub-theme	Objectives	Children`s Activities	Materials	Age	Reference	Remarks
Week 1	Our home	Family members and immediate neighbours	At the end of the lesson, learners should be able to: -Name members of the family -Count members of the family -Group members of the family according to sex -Draw a picture of members of the family -Colour individual members of the family -Writing names of family members 7.Model members of the family	1.Naming 2.Numbering 3.Grouping	- - - -	3years to 5 years	Activity Book 3 Pg. 59-61	

1.2 SCHEME OF WORK FOR TEACHERS TEACHING WITH PLENTY OF MATERIALS, MANY TYPES OF PLAY AND PLENTY OF TIME.

YearTerm.....Age.....Class

Duration	Theme	Sub-theme	Objectives	Activities	Materials	Age	References
Week 1	Our home	Family members and immediate neighbours	At the end of the lesson, learners should be able to: 1.Name members of the family 2.Count members of the family 3.Group members of the family according to sex 4.Draw a picture of members of the family 5.Colour individual members of the family 6.Writing names of family members 7.Model members of the family	1.Naming 2.Numbering 3.Groping 4.Drawing 5.Colouring 6.Modelling 7.Singing 8.Observing	1.Pictures 2.Charts 3.Plasticines 4.Clay 5.Colour 6.Glue 7.Pencils 8.Pens	3years to 5 years	Book 3 Pg. 59 -61