

ESTABLISHING AVAILABILITY AND ADEQUACY OF CONTENT PLAY-BASED MATERIALS AS A PREDICTOR OF PLAY-BASED ACTIVITIES IN PRE-SCHOOL CURRICULUM IMPLEMENTATION IN HOMABAY COUNTY

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ABSTRACT

Play in Early Childhood Education is paramount in holistic development in young children. Play-based learning has both developmental and educational benefits. The policy framework recommends that children be taught through play and the teaching should use thematic approach involving play-based activities. While education policy requires that pre-school be taught using play based activities many schools are still academic oriented and play is seen as a waste of time hence, Pre-school children have been exhibiting increased learning difficulties, many cases of truancy, and as a result the study sought to find out availability and adequacy of content play-based materials used in pre-school curriculum implementation in HomaBay County. The study was guided by Lev Vygotsky social constructivism Theory Lev (1934) and employed concurrent triangulation research design. The study was conducted in Homabay County with a target population of 1257 Pre-school teachers, 908 lead teachers and 8 Sub-county directors. The sample size for pre-school teachers was 297 using Krejcie & Morgan while for lead teachers was 27. Proportionate sampling, systematic simple random technique and purposive sampling technique were used. Pilot study was conducted in order to check validity while reliability was ascertained by the internal consistency method using Cronbach's alpha, and a reliability coefficient of r above 0.7 was obtained for the questionnaire items. Trustworthiness and authenticity was enhanced by using multiple sources of information and triangulation of data. Instruments for data collection used included a questionnaire, an interview schedule and focus group discussion. Quantitative data was analyzed using Pearson's Product correlation and regression analysis with the aid of the statistical package for social sciences (SPSS) version 22. Qualitative data was analyzed using thematic analysis. The study revealed that availability and appropriateness of content play-based materials there was a statistical significant ($n=202$; $r = .512$; $p < 0.05$) positive correlation. It was a significant predictor [$F(1, 200) = 74.463$, $p < .05$] to pre-school curriculum implementation, accounting for about 26%, $R^2 = .262$, of the variation in pre-school curriculum implementation. The study recommended that government through the ministry of education should come up with clear policy guidelines on the use of play-based activities in pre-school curriculum. Teachers should be encouraged to take a major role in planning and organizing play activities. Parents should be sensitized on the need to supplement county government effort to build spacious Schools and provide their children with play-based materials used both at home and at school. The research acts as a basis for further study in the area of play-based activities and physical skill development of preschoolers' in Homa-Bay in Kenya. Scholars will have the opportunity to confirm or build on the findings of this research. The findings of this study will be significant to the ministry of education, policy planners, education administrators, teachers and institutions that deal with early learners.

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KEYWORDS: Availability, Adequacy, Content Play-Based materials, Play-based Activities, Pre-School, Curriculum implementation, Predictor, Homa-Bay County

INTRODUCTION

Play is the first and most important defining behavior of a young child. Integration of play in learning activities lead to children's development on language skills such as memory, concentration, imagination, creativity and learn about the world and new things (Morita, 2004). Play activities are educational in that they enforce certain skills such as mathematics, spelling and reading. Play is essential for optimal development of a child. It has been recognized by the United Nation High Commission for Human Rights as a right for every child (UNHRC 2006). There is a score of games used in early childhood to enhance learning. According to Morita, (2004) play is important when your child enters school and can assist children in adjusting to a school setting. It enhances children's learning readiness and their cognitive development by allowing them to tackle

learning experiences without fear of failure. Integration of play in learning, allows practicing of basic social skills.

Research shows that play cannot be replaced by any other activity Bodrova & Leong (2006). This is because play contributes to and enhances all areas of development in young children. According to Hughes (2009) and Morita (2004) play activities have a crucial part in children's growth and development hence denying them an opportunity to play affects their holistic growth and development. Pre-scholars need early learning as well as experiences play and conducive learning/play environment. Learning through play contributes to both physical and mental development. Play in the pre-school years has the potential to provide young children with a highly engaging and meaningful context of

learning essential concepts and skills. Pellegrini, (1985) noted that play such as dramatic play and literacy share higher order cognitive processes such as imaging, categorizing and problem solving.

Through play experiences, children learn about themselves, their environment, and the people in their lives, experiment with different ways to solve problems; develop body control; practice social skills; and express their creativity hence they gain confidence as they choose toys and materials that are displayed and are of particular interest to them. Display of materials creates an environment that encourages children to make their own choices helps them feel safe, valued, adventurous, competent, and confident to take the initiative (Elis & Arnold, 2000). These two further argue that play materials for children add value to play and that children should be provided with play-based materials as a way of enhancing their play. Teachers and parents are required to provide play-based materials to their children so as to help them get engaged in meaningful play which influences their social skills development

Brockman, Jago, Fox, Thompson and Cartwright (2011) further argues that when children lack play activities, they are always constantly fatigued and they become over dependent. They also end up engaging in socially inappropriate behaviours. There is a national trend to focus on the academic fundamentals of reading and arithmetic. This trend, spearheaded by free and compulsory primary education in Kenya, is a reaction to the unacceptable educational performance in our children (Dillons, 2006).

Play based activities promotes social interaction skills in children and strengthen the desire to interact in the process (Mahindu, 2011). (Njoki 2007 and Wangari 2011) argue that play is one of the important ways through which children learn, it is an important and key need for the children to develop cognitive social and religious boarders. Evidently, if this unfortunate trend persists, play as a curriculum implementation process is at risk of being completely ignored by many ECDE curriculum implementers in Kenya. When curriculum implementers ignore play, it may lead to poor performance in ECDE centers as teachers may not recognize and appreciate the relevance and influence of play to teaching and learning of small children (Republic of Kenya, 2006).

Teachers consider play as a waste of time and too much emphasis is put on theoretical academic work at the expense of physical education and other play activities (Onguko, 2000). However, deprivation of play has been known to affect child growth and development (Pellegrini 2005). Henderson (2006) also reveals that most pre-schools facilitate teaching without or with very little time for children to play. They lack adequate playing materials for children. This therefore underlines the efforts to rear a child holistically. In addition, children who do not participate in play lack pro-social skills self - confidence and are easily irritable (Morita 2004)

In the fourth schedule of the Kenyan Constitution 2010, places pre-school education and child care facilities under the County Governments. The roles are further specified by section 26 of the basic education Act, 2012 which states that the roles of the County Government will include the provision of funds required for the development of the necessary infrastructure for institutions of basic education and training used for conducting pre-primary education, childcare facilities, home craft centres and village polytechnics. In Homabay County statistics indicate that most teachers did not use play-based learning activities in the teaching and learning process in pre-school and low enrollment among other sub counties in Homabay County

Scope of the Study

The study investigated selected aspects as predictors of play-based activities in public pre- school curriculum implementation Homabay County with focus on availability and adequacy of play-based materials in pre-school curriculum implementation. The study was carried out in Homabay County within the counties geographical coverage. It was confined to pre-school teachers and field officers. The study adopted concurrent triangulation design and the data was collected using questionnaire, interview schedule and focus group discussions.

Significance of the Study

The findings of this study provided base upon which the ECDE curriculum implementers in Kenya drew guidelines and knowledge in the play-based instruction process. The knowledge accrued may assisted the Ministry of Education (MoE); Kenya Institute of Curriculum Development (KICD) and the National Centre for Early Childhood Education (NACECE) in the development of new or improve curriculum content for ECDE. The study drew the attention of teachers' School practices, highlighting any challenges in this endeavor and may contribute to depth of literature in this area of play-based instruction in ECDE curriculum. The study may be used by the County government through District center for Early Childhood Education DICECE to formulate refresher courses, workshops, seminars or conferences on ECDE curriculum. The study added to the body of knowledge that other researchers may review or identify gaps on which to carry out more research.

REVIEW OF LITERATURE

A study by Nwokah *et.al.* (2013) in America on the use of play materials in early intervention argued that play is a major component of early intervention for infants and toddlers with special needs. Many of these children are from low-income families with limited resources. The authors investigated the attitudes, practices, and concerns of early intervention providers (professionals whose services support young children with developmental disabilities and delay) concerning their use of toys in their work and their worries about poor youngsters without such play things. The authors' survey of 320 early-intervention providers revealed that nearly all took play materials with them into the homes of some children but most of them also used items already present there. More than 80 percent of providers gave toys to

their clients because of their concern that the family's poverty made toys scarce. As a group, physical therapists and occupational therapists were significantly less likely to use play materials they took into the homes. Most significantly, perhaps, all providers found that poverty increased the need for related therapist services, for educating parents about play, and for using play materials in therapy. The reviewed study differs from the current study as it did not only look at special needs learners but preschoolers as a whole

A study by Elif and Esra (2010) in the city of Kocaeli in Turkey investigated Pre-school children's using of play materials creatively in four pre-schools, showed that most of the children cannot be able to show creative expressions with different kinds of play materials in their play. The study consisted of two steps. In the study, pre-school children's (4-5 and 6 years old) preference of toys and real objects as play materials in a pre-organized play area was observed. Observation process was 35 minutes. The first 5 seconds and the last 10 minutes were not recorded in case of the children's attention could be disturbed. Children's preference of play materials and/or real objects as play materials and their creative expressions in play were recorded by two observers. The results showed that children highly preferred to use of toys as play materials. The current study employed questionnaire interviews, focus group discussion and observation, while the reviewed study used observation only. Guerra and Zuccoli (2012) in Milano, Italy conducted an exploratory survey that investigated the meaning and effect of working with materials at schools, based on two parallel and complementary processes: finished and unfinished objects. This survey confirmed that working with different types of manipulative materials makes it possible for children to develop their creativity through different but just as important pathways, useful to develop strategies for experimenting, broadening and deepening the use of materials at school both theoretically and methodologically, so that the choice of which materials to use is more and more intentional on the part of the teachers. The definitions of materials proposed by the students appear to be very consistent with those outlined in the literature and follow experiences in the field, showing not only targeted knowledge, but also a willingness to introduce and use materials characterized by greater openness and flexibility in future school experiences.

However, there is a greater clarity of definition regarding structured and unstructured materials, and there is less focus on the specific characteristics of those considered unusual (i.e. different from the usual materials, those normally not present...) due to their exceptional qualities. Continuing our investigation, especially through field research, would be interesting and serve to arrive at a definition that allows for showing and sharing their potential more precisely. The current study used a descriptive survey establishing teacher perception and practices on play-based activities in pre-school learning environment.

Manches and O'malley (2016) in their study on the effects of physical manipulatives on children's numerical strategies in

Malaysia had a target population of 4-7-year-old and employed theory of manipulative debate, by McNeil and Jarvin (2007). The study used Subjects design and data was analyzed qualitatively with a sample size of 32 children (17 girls and 15 boys, age range 68 to 82months). The findings of the study revealed that children not only identified more solutions using physical materials compared with no materials, but that using manipulatives fostered conceptually more developed strategies there was no advantage in providing children with a record of all their solutions through pictorial. The review study employed theory of manipulative debate by McNeil and Jarvin (2007), while the current study employed constructivism theory which addresses curriculum implementation in totality in terms of instruction materials and school environment

Schaefer (2016) study on teacher inquiry on the influence of materials on children's learning young children in America was underpinned by theories of Piaget and Vygotsky and data was collected from the afternoon classroom of 4- and 5-year-olds. There were 18 children in the class (6 boys, 12 girls) and 4 student teachers who were observed. Data was analyzed qualitatively by use of common themes. Findings revealed that, the number of materials within an area affected the children's investigation and influenced how they used them. Equally amount of time the materials were offered impacted children's investigation. The reviewed study analyzed data qualitatively and used observations to collect data while the present study used mixed method that gave room for triangulation.

According to Hsieh-Chun Hsieh (2008) in a study on effects of ordinary and adaptive toys on pre-school children with developmental disabilities in Taiwan revealed that, participation of the preschoolers' increased dramatically in playing adaptive toys during intervention phase. The toy effects demonstrated that when using adaptive toys, children with developmental disabilities response better. A single-subject design was used involving 3 special education teachers and 3 children with developmental disabilities. The study used observation as an instrument of data collection. The reviewed study focused on use of toys on developmental disabled children and this differs with the current study which will focus on an inclusive setup in pre-schools.

Igbo and Omeje (2014) in their study on efficacy of teacher-made instructional materials in promoting learning among mathematics-disabled children primary school had a sample size of 155 primary 5 mathematics-disabled pupils and used questionnaire as data collection instrument. The study applied survey design and data was analyzed using mean, standard deviation, and *t*-test statistics. results revealed that that pupils prefer visual aids because they helped the children recall better, learn faster, achieve more, and preferred to use teacher-made instructional materials, among other items. The study recommended that Teacher-made instructional materials should be used all the subjects in primary schools to enable children to get information from the primary source. The reviewed study focused on use of improvised materials on disabled children and this differs

with the current study which will focus on an inclusive setup in pre-schools.

Okudo and Omotuyole (2013) study on utilization of locally made resources in early childhood education to promote effective learning and communicative competence in Nigeria, employed descriptive survey design and used questionnaire as data collection instrument. Sample size included 10 respondents in 5 schools and 300 early childhood teachers and data were analyzed using descriptive statistics namely frequency and percentage. Findings of the study revealed that most of the teachers in early childhood education were not exposed to training programmes which would help to enhance their knowledge of utilizing locally made resources for teaching and learning and that children who come to pre-school with use of symbolic language should be concretized with locally made instructional for them to be able to participate fully, be able to develop and achieve communicative competence that is clear, meaningful, culturally and linguistically appropriate.

According to *Onyango (2013) study on* effects of teaching and learning resources on pre-school learners transition to class one in Kenya found out that, when teaching and learning materials are appropriately acquired, used and stored they increase the transition rate of the preschoolers'. It was also evident that teaching and learning materials should be used in teaching the pre-school children. The research recommended that teaching and learning materials be provided by the people responsible for the same to enhance holistic development of the child and that the teachers should take the leading role in the acquisition, appropriate use and storage of the teaching and learning materials to help improve the academic part of the child. The study adopted case study research design that was anchored on the Piaget's theory of cognitive development and used questionnaires to collect data. The study had targeted 118 preschools with a sample size 259 participants while data collected was presented in pie charts and analyzed by use of descriptive statistics. The review study employed Piaget's theory of cognitive development, while the current study employed constructivism theory which addresses curriculum implementation in totality in terms of instruction materials and school environment

A study by Koech on instructional resources used in teaching and learning in pre-schools in Kenya, involved 120 preschool teachers, 40 head teachers and 5 TAC tutors. Research instruments used were observation checklist, questionnaire and interview guide. It was found out that the age and entry behaviour of a pre-school learner, the number of children admitted and the sex, socio economic background, safety, learners' ability (special/ normal learners) and language level were the other factors that influence the selection of instructional resources.

A study by Okobia (2011) in Edo state, Nigeria investigated the availability and teachers' use of instructional materials and resources in pre-school teaching and curriculum implementation. Three research questions were raised and one hypothesis was formulated. A sample of 50 pre-school

teachers was randomly selected from 50 pre-schools in 5 local government areas of Edo State. Data analysis was carried out using t-test for the hypothesis and simple percentages for questions one and two. The results showed that instructional materials and resources available were grossly inadequate. It was therefore recommended that instructional materials and resources be made available for the teaching of pre-school children. The current study differed from the reviewed study in terms of population size where by reviewed study had small population size of 50 pre-school teachers unlike the current study which had 297 pre-school teachers.

Kanje (2009) in Ghana investigated teaching and learning resources that are available to specifically assist teachers in improving their School environment assessment practices. The reviewed study in Ghana used questionnaire and interview schedule. The study adopted cross-sectional descriptive survey design which was formed from curriculum implementation theory by Gross 1971. The study used questionnaire and interview schedule. It targeted a population of 408 teachers, 306 ECDE teachers in Public Pre- Schools and 102 head teachers. Saturated sampling was used in sampling 102 ECDE lead teachers, study used semi-structured questionnaire to collect data from the lead teachers who were key informants. Stratified sampling was used in sampling schools as they are zoned; simple random sampling was used in selection of 33 pre-schools in their respective zones. The 33 head teachers were the informants. The reviewed found out that textbooks are essential teaching and learning resources and this has been confirmed by various studies. He believes that most schools perform poorly because they spend less in purchasing teaching resources and any meaningful teaching and learning to take place, appropriate teaching and learning resources must be used. Kanje (2009) study indicated that ECDE teachers are overloaded with them teaching with instructional activities with lack of enough instructional materials, libraries, adequate text books and also very limited resources for teaching various themes. The present study used interviews, questionnaire and focus group discussions to fill the gap and add literature to the existing body of knowledge.

Akinyi (2015), study on different play elements facilitates acquisition and development of difference skills. Data was collected using self-administered questionnaire, interview guides and observation checklist. The study adopted purposive sampling procedure in selection of the study sample. A study sample of 143 respondents was used. Data collected was analyzed using descriptive statistics to determine means, frequencies and percentages then presented inform of tables for interpretation. The findings of the study revealed that learners who were exposed to different types of play like manipulative, creative, dramatic and physical plays with play materials achieved higher scores because the children acquired listening, speaking, reading and writing skills during interaction with teachers who played active roles to instruct and direct play than those who were not exposed to any form of plays. As the children learn to manipulate and play with the materials, they gain confidence and thus develop resilience in handling most

difficult tasks when they grow up. Hobart and Frankel (2009), say play activities build children's body as they expend their energies hence maintain their physical fitness. The study concluded Based on the findings that provision of different types of play and play materials gave the children opportunity to learn through manipulating and experimenting for themselves. Through these, they are able to acquire all the language skills of listening, speaking, listening, reading and writing. This was exhibited in their performance in language skills. The study revealed that pre-school children who engaged in play activities were confident and eloquent in their speech and positively and freely interacted with everybody around them. Mahindu (2011), claims that availability of play activities such as running, jumping, kicking and throwing is key in the holistic development of a child and thus play is crucial in any pre-school setup. It is, therefore, necessary for the caregiver to equip the learners with the necessary play skills they would use to participate in the activities of their choice fully. The current study is different from the reviewed study as it included FGDs as data collection tools

A study carried out in Gem District in Kenya by Ogott et.al. (2010) on teacher factors in language curriculum material selection, development and use in Early Childhood Education program which was meant to ascertain the extent of influence of teacher factors in selection, development and use of materials in a language School. The study involved 68 teachers (representing 33% of the population) selected using simple random sampling from 115 ECDE centers. The study adopted descriptive survey design. Data was collected by the use of a questionnaire. The study found that teachers were academically and professionally ill equipped to effectively select, develop and use materials in the Language School. The study recommends that the Government should harmonize ECDE teacher training program and widen the scope of the curriculum to include practical aspects to enhance sufficient and effective selection, development and use of language materials in the Early Childhood Development and Education Programme. The reviewed study differed from the current study on the sample size research design and data collection tools where by the current study had a sample size of 297 pre-school teachers, used concurrent triangulation design and used questionnaire interview schedule and FGDs for triangulation.

According to Mbitio (2010), Kenya in his study on the availability of teaching/learning resources in public primary schools in Kenya admitted that the heads of the schools lacked enough funds for buying teaching and learning resources and funds for sponsoring teachers for in-service courses. The study employed descriptive survey research design. The target population was 134 head teachers in 134 pre-school centers, 402 pre-school teachers, 12 Education officers and 938 pre-school parents in Nyamira North Sub-county. Sample size was 40 pre-school centers and 40 head teachers which were randomly sampled to represent 30% of the centers. Further, 134 pre-school teachers and 270 pre-school parents were sampled through stratified random sampling and 12 Education Officers sampled by census sampling. Data was collected using questionnaire and

observation checklists. Descriptive statistics of means, percentages and weighted averages was used in analyzing the data. Findings revealed that there were inadequate teaching and learning resources at pre-school centers in Nyamira North sub-county. 78 percent of the respondents revealed that inadequate resources affected the implementation of inclusive education. Mbitio (2010) recommends that adequate teaching and learning resources should be provided to ensure effective implementation of inclusive education and more funds to be allocated for procuring teaching and learning materials for Special Needs Education (SNE) learners. The study showed stated that most of the teachers had no interest in play hence more class work without play interfered with the teaching and learning of learners in pre-school. The present study is different in that it was focused on the management of the available play based materials in public ECDE schools The above reviewed study used questionnaire and document analysis but interview schedule were not used. The present study used questionnaire, Focus group discussion and interview schedule to collect in depth information to enrich the existing body of knowledge.

According to Chelule (2009) in Kenya studied significance of teaching and learning materials in pre-school level in and used descriptive survey design affirmed that distribution of teaching and learning materials such as text books and equipment's account for a significance difference in performance amongst schools. The finding was, learning would be boring to learners if teaching and learning resources are not incorporated in the lesson. The resources therefore should be properly organized and exploited for a meaningful teaching and learning. The present study is different in that it was to determine teacher's perceptions towards play based activities and materials. The main respondents were the pre-school teachers and Key informants were ECDE lead-teachers and Sub county directors who are the supervisors of the curriculum implementation in Homa Bay County, Kenya.

Research Methodology

The study used mixed method research approach. This approach draws the strength of both quantitative and qualitative approaches. According to Oxman et al (2009) mixed methods approach can be used in exploring behavioral process that cannot be captured by using either quantitative or qualitative methods in isolation. Use of both quantitative and qualitative provides rich answers to the research questions. The approach enabled the study to gather adequate information that provided a better understanding of a research problem and answering the entire research questions other than using qualitative or quantitative research approach alone (Creswell and Plano Clark 2011). It increases the overall strength of a study by enhancing the validity and trustworthy of data collected (Denscombe 2010). The reason behind mixed method is that both approaches may be insufficient by themselves but in this study, either filled in the gaps of the other to provide different evidences that could be corroborated (Mugenda and Mugenda, 2003).

For this study, the target population comprised of 1252 pre-school teachers who were the main respondents, 906 lead

teachers and 8 Sub- County directors who were the key informants in the study. The number of public ECDE Centers in Homabay County is 906 (MEO, Homabay County 2016). The research adopted, proportionate sampling systematic random and purposive sampling techniques due to the nature of the target population in order to obtain the sample size, various sampling procedures were used as explained below. The study used questionnaires, interviews, observation and focus grouped discussions in an attempt to provide answers to the research questions. Data was collected by use of the questionnaires and interview teachers’ lesson observation schedule in order to get the desired information. For effective administration, the questionnaires, interview schedule and lesson observation schedule was administered to various respondents by the researcher and research assistant. Data collected from administrations of the questionnaire was analyzed quantitatively while data from the interviews, Focus group discussions observation, were analyzed qualitative.

RESULTS AND DISCUSSIONS

This study was to investigate the influence of availability and appropriateness of content play-based materials used on pre-school curriculum implementation. This was investigated by collecting and analysing the views of the pre-schoolteachers on the availability and appropriateness of content play-based materials in their schools. In addition, an inferential statistics (Product Moment Correlation Coefficient) was used to investigate whether there was a statistical significant influence of availability and appropriateness of content play-based materials on curriculum implementation. In exploring the views of the pre-school teachers, a ten Likert-scaled itemed Availability and Appropriateness of Content Play-Based Materials questionnaire was used. The items whose constructs were related to indicators of anxiety were rated using a five-point rating scale of using: 1= Strongly disagree, 2= Disagree, 3=Undecided, 4=Agree and 5= Strongly agree. Their responses were summarized in percentage frequencies as shown in the tables below;

Questionnaire Return Rate

The table below shows the summary of return rate of questionnaires from the respondents, reveals that the questionnaires were adequate for the study.

Table 1: Questionnaire Return Rate

Respondents	Questionnaires administered	Questionnaires returned	Return rate (%)
Pre-school teachers	297	202	68.8

Source: Survey data (2018)

The above table shows that from a total of 297 questionnaires administered to the preschool teachers, 202 of them were received for data analysis, which is equivalent to 68.8% response rate. Morgan (2006) and Onen (2009) propose that a 50% return rate is adequate, 60% is good enough while the return rate of above 70% is very good. Visser, Krosnick, Marquette and Curtin (2000) on their part observed that surveys with response rates of above 50% for

survey data collected from homogeneous population is adequate enough to yield accurate measurements. Grounded on these assertions, the current study’s questionnaire return rate of 68.8% is therefore considered good enough. The noted high response rate was attributed to the fact that the questionnaires were personally administered by the researcher to the respondents. The researcher also pre-notified the study participants of the intended and intention of the study, communicated aggressively to track responses and sent reminders to stimulate participation. In addition, the questionnaires were simple, friendly to pre-school teachers whom were assured of confidentiality of the data collected.

Respondents’ Demographic Information

The study sought to investigate the demographic characteristics of the respondents. Demographic information was considered necessary for the determination of whether the respondents were representative sample of the target population for generalization of the results of the study. The demographic information investigated include gender and age.

Gender and Age of the Preschool Teacher Respondents

The table below shows the gender and age information of the pre-school teachers who took part in the survey.

Table 2: Demographic Information of the Respondents

Bio-data	Count	Percent	Cumulative percentage
Gender			
Male	13	6.4	6.4
Female	189	93.6	100.0
Total	202	100.0	
Age (Years)			
≤ 30	71	35.1	35.1
31-40	97	48.0	83.1
41-50	28	13.9	97.0
≥ 51	6	3.0	100.0
Total	202	100.0	

Source: Survey Data (2018)

It is evident from the above table that a significant majority 189 (93.6%) of the students were males, with female students being only slightly more than a third of the respondents. This may not be surprising because it is generally believed that male teachers inherently are not keen to teach preschool learners. Pre-school education is generally viewed as female teachers’ dominance. However, it is noted that although only 13 (6.4%) of the sampled teachers were males, both gender was represented in the study.

On their ages, it was established from the results of the survey that majority 97 (48.0%) of the respondents were aged between 31 and 40 years. Only 6 (3.0%) of the preschool teacher respondents were aged fifty one years and above, while those under thirty years formed 71 (35.1%) of the entire population of pre-school teachers sampled for the study. These findings imply that most of the pre-school teachers were still young and were able to effectively indulge in play based activities in pre-school curriculum implementation.

Table 3: Availability and Appropriateness of Content Play-Based Materials

ITEM	1	2	3	4	5	Mean	SD
The play- based materials I use are in line with teaching and learning area/theme.	0(0.0%)	4(2.0%)	18(8.9%)	66(32.7%)	114(56.4%)	4.44	0.74
The play-based activities materials are attractive to the learners; good colour and shape.	0(0.0%)	9(4.5%)	18(8.9%)	54(26.7%)	121(59.9%)	4.42	0.83
I ensure that I improvise play materials appropriate to my learners, where I lack one.	10(5.0%)	26(12.9%)	19(9.4%)	55(27.2%)	92(45.5%)	3.96	1.23
There are adequate play-based materials for each learner to play with during play-based activities.	8(4.0%)	40(19.8%)	22(10.9%)	64(31.7%)	68(33.7%)	3.71	1.23
The content play-based materials I use are always manipulative and interactive	2(1.0%)	10(5.0%)	21(10.4%)	74(36.6%)	95(47.0%)	4.24	0.90
The content play-based activities are always appropriate for the learners' age and interest.	0(0.0%)	9(4.5%)	21(10.4%)	62(30.7%)	110(54.5%)	4.35	0.84
The play-based materials I use are always time appropriate.	2(1.0%)	23(11.4%)	32(15.8%)	70(34.7%)	75(37.1%)	3.96	1.04
I use variety of play-based activities to facilitate acquisition and development of difference skills.	12(5.9%)	43(21.3%)	25(12.4%)	62(30.7%)	60(29.7%)	3.57	1.27
I use toys in play-based activities more frequently than real objects	32(15.8%)	68(33.7%)	30(14.9%)	39(19.3%)	33(16.3%)	2.87	1.34
Most of the play-based activities materials are functional and in good condition.	22(10.9%)	54(26.7%)	26(12.9%)	50(24.8%)	50(24.8%)	3.26	1.37
Mean average availability and appropriateness of content play-based materials						3.88	0.64

Key: Strongly Disagree (SD) =1, Disagree (D) =2, Undecided (UD) =3, Agree (A) =4, Strongly Agree (SA) =5 and SD-Standard Deviation.

Source: Survey data (2018)

It was established that although many of the schools had enough play-based materials for each of the learners, this was not true in all the schools. This was reflected by the results of the survey which indicate that out of all the sampled pre-school teachers only about a third 68 (33.7%) of them were sure that there were enough play-based materials in their school for each learner to play with during play-based activities, however while 31.7% agreed with the statement, 10.9% remained neutral and 19.8% disagreed with the statement and 4.0% strongly disagreed with the statement.

It is not our wish not to provide our children with enough play materials but due to the high number what is available may not be enough and because most of the parents are not cooperative in trying to help us teachers in developing and provision of this materials [FGD, 2]

From the above sentiments, it can be deduced that, yes play based materials may be available but not adequate for each

learner and this may be because of over enrollment and lack of support from the parents to develop play-based materials for the learners. The findings are cemented by Okobia (2011) who investigated the availability and teachers' use of instructional materials and resources in pre-school teaching and curriculum implementation. The findings of the study showed that instructional materials and resources available were grossly inadequate. It was therefore recommended that instructional materials and resources be made available for the teaching of pre-school children.

Conversely, majority 147 (72.7%) of the pre-school teachers revealed that they always ensured that they improvised play-based materials appropriate to their learners needs, where they lacked. However, some 36 (17.9%) of them consented that they were unable to improvise play-based materials for their learners this summary was based on the finding that majority of the respondents 45.5% strongly agreeing, while 27.2% agreed, 9.4% remained neutral and 12.9% disagreed and 5.0% strongly disagreed with the statement. A representative statement from one of the lead pre-school

teacher also found that that it was at times difficult to improvise. One of the teachers had to this say;

It is not our wish not to provide our children with enough play materials but due to the high number what is available may not be enough and most of the parents are not cooperative in trying to help us teachers in developing and improvisation of this materials [FGD, 2]

From the excerpts by lead pre-school teachers it is evident that content based play materials are available but not enough therefore a teacher has to improvise so as to meet the learners' needs and set objectives. It is clear that it's important to involve parents in the development of these content play-based materials so as to seal the gap of availability.

The findings is in agreement with Igbo and Omeje (2014) results revealed that that pupils prefer visual aids because they helped the children recall better, learn faster, achieve more, and preferred to use teacher-made instructional materials, among other items. The study recommended that Teacher-made instructional materials should be used all the subjects in primary schools to enable children to get information from the primary source. However the study differed with that of Okudo and Omotuyole (2013) which revealed that most of the teachers in early childhood education were not exposed to training programmes which would help to enhance their knowledge of utilizing locally made resources for teaching and learning and that children who come to pre-school with use of symbolic language should be concretized with locally made instructional for them to be able to participate fully, be able to develop and achieve communicative competence that is clear, meaningful, culturally and linguistically appropriate.

This was mirrored by the response of the pre-school teachers on the use of toys or real objects, where 72 (35.6%) of the preschool teachers indicated that they used toys in play-based activities more frequently than real objects, while close to a half 100 (49.5%) of them indicated that they use toys in play-based activities less frequently than real objects. The summary was derived from form table 4.20 which revealed that 16.3% of the respondents strongly agreed that they use toys in play-based activities more frequently than real objects, while 19.3% agreed with the statement, 14.9% remained neutral and 33.7% disagreed with the statement and 15.8% strongly disagreed with the statement. A statement drawn from the Focus group discussions with the pre-school lead teachers also confirmed that many teachers did use toys during play based activities. The of the members had this to say;

"The schools lack fund to buy toys, hence, the only option is to have art corner or our shop so that we can have some real objects around the corner but it's not been easy" [FGD, 3]

Another statement from interview with sub county directors;

"The budget for resource materials is very thin actually it's close to nothing in that in early childhood we depend on donations of toys and play materials which cannot be sufficient". [Sub county directors 5]

The two excerpts acknowledge teachers do not use toys more frequently and this is because they are not readily available and they are expensive yet learners always prefer toys than real objects as the toys enables the learners to be creative and try solve problems as they manipulate the toy. The findings differ with that of Hsieh-Chun Hsieh which revealed that, participation of the preschoolers' increased dramatically in playing adaptive toys during intervention phase. The toy effects demonstrated that when using adaptive toys, children with developmental disabilities response better.

In addition, whereas 122 (60.4%) of the pre-school teachers said they used variety of play-based activities to facilitate acquisition and development of different skills, respectable proportion 55 (27.2%) of the sampled pre-schools teachers agreed they lacked variety of play-based activities to help them effectively facilitate acquisition and development of different skills. Form the table 29.7% strongly agreed that they use variety of play-based activities to facilitate acquisition and development of difference skills, while 30.7% agreed, 12.4% remained neutral, 21.3% disagreed and 5.9% strongly disagreed with the statement. Qualitative data from the pre-school lead teacher and Sub county directors interviewed revealed that teachers have shown attempts to foster child-friendly environments, by providing varied materials for play and consciously encouraged to participate actively. One pre-school lead reported:

"The inculcated child-free environment by giving availing many and different materials for the leaners to play during indoor and outdoor activities gives them the confidence to approach every matter, and develop holistically" (FGD 4)

From the Sub county directors, one said:

"The teachers always strive to make the learners' environment very conducive for learning. However these materials in most cases are not enough but they have tried to improvise and we encourage them to embrace grouping. I can strongly say holistic development of the child is put into consideration in my area of supervision" (Sub county directors 4)

The implication of these two excerpts is that a child friendly environment is that environment that the learners have plenty if materials to interact with hence discover, explore and enhance his/her growth and development in all aspects thus be holistic.

These findings concurred with Akinyi (2015) who observed that learners who were exposed to different types of play like manipulative, creative, dramatic and physical plays with play

materials achieved higher scores because the children acquired listening, speaking, reading and writing skills during interaction with teachers who played active roles to instruct and direct play than those who were not exposed to any form of plays.

On appropriateness of the play-based materials to curriculum implementation, the findings of the study established that whereas some schools had appropriate play-based materials others did not have. This was revealed by the respondents response on the statement, "The play-based materials I use are always time appropriate", where 75 (37.1%) of the preschool teachers alluded that their play-based materials were time appropriate, 25 (12.4%) of them accepted the materials they were using were never time appropriate and 32 (15.8%) of them were not sure on their appropriateness.

"There is no teaching without relevant play materials this is because if one uses an item that is not relevant then children will be lost along the process and this means that learning ill not have taken place". [FGD, 3].

This excerpt indicates that appropriate use of play-based materials is very import for learning to take place. That these play materials should be appropriate in terms of the age of the learners to enable them make sense out of them. Similarly, Mahindu (2011), claims that availability of play activities such as running, jumping, kicking and throwing is key in the holistic development of a child and thus play is crucial in any pre-school setup. It is, therefore, necessary for the teachers to equip the learners with the necessary play skills they would use to participate in the activities of their choice fully. The appropriate play skills should, in fact, be learned as early as possible in the life of a child.

However, a significant majority of 180 (89.1%) of the pre-school teachers who took part in the survey expressed their satisfaction with the play-based materials they were using which they believed were in line with teaching and learning area/theme, this was translated to a mean average rate of availability and appropriateness of content play-based materials of 4.44 (SD=0.74). Form table 4.20 majority of the respondents 56.4% strongly agreed that the play-based materials used are in line with teaching and learning area/theme, while 32.7% agreed with the statement, 8.9% remained neutral and 2.0% disagreed and none strongly disagreed with the statement. Qualitative data from lead pre-school teachers supported the above finding. One said:

"Thematic teaching is the well know teaching method in pre-school and a teacher can only teach effectively if he/she incorporates relevant teaching materials that will suit the subject at hand" [FGD 4]

The excerpts acknowledge that teachers understand what it entails thematic approach which involves use of relevant content play-based material to achieve the set objectives how

the actual picture is teachers tend to have inappropriate materials or may not be able to avail the materials because of the academic pressure the teachers are having. This revelation was not agreement with Kanje (2009) study which indicated that ECDE teachers are overloaded with them teaching with instructional activities with lack of enough instructional materials that are relevant to varied themes, libraries, adequate text books and also very limited resources for teaching various themes.

On the same note, the findings of the study show that content play-based activities used by most of the pre-school teachers were always appropriate for the learners' age and interest, as was held by 172 (85.2%) of the pre-school teachers who were surveyed. One of the members asserted that In regard to play-based activities materials attractiveness, the finding of the study show that most of them were attractive to the learners in terms of good colour and shape, as asserted by close to nine out of every ten 175 (86.6%) of the pre-school teachers who responded to this item in the questionnaire. Equally, although 12 (6.0%) of the pre-school teachers held a contrary opinion, majority 169 (83.6%) of them confirmed that the content play-based materials they were using were always manipulative and interactive. Qualitative data further emphasized the importance of material presentation that fosters learner's interest. One teacher said:

"In early years learners are attracted to anything depending with how it is presented in terms of colour size and shape. For that simple reason the ECDE centres are painted in different colours to attract the learners and make learning interesting." (FGD 4)

"In pre-school learners are grouped according to their age this is because teaching resources and even approach varies with age and level of the learner for effective implementation of the curriculum." (Sub county director 1)

These excerpts point to the fact that for the learners attention to be captured which is key in pre-school then the teacher should use play materials that are colorful and of different shapes as this makes learning interesting hence encourage learners to participate in the activity areas, even if sometimes they may not have every other facility. Principally, a greater part of the inculcation of such feelings is the duty of the counselling teacher. Mauro (2014) also reported that students who received encouragement and empathy from teachers motivated them to learn in school. This finding seemed to cement those of Koech who found out that the age and entry behaviour of a pre-school learner, the number of children admitted and the sex, socio economic background, safety, learners' ability (special/ normal learners) and language level were the other factors that influence the selection of instructional resources.

However, what came out clearly from the findings of the study is that although in some schools the play-based materials were in good condition and working as expected, in other schools they were defective and in poor conditions. This was revealed by the analysis of the pre-school teachers' responses, where while 100 (49.6%) of the pre-schools teachers said theirs were functional and in good condition, another 76 (37.6%) of them accepted that most of their play-based activities materials were dysfunctional and in poor condition. Form table 4.20 it is revealed that 24.8% of the respondents strongly agreed that most of the play-based activities materials are functional and in good condition, while 24.8% agreed with the statement, 12.9% remained neutral and 26.7% disagreed with the statement and 10.9% strongly disagreed with the statement. Qualitative data from the pre-school teachers corroborated that play-based materials were defective and in poor conditions. One teacher said:

“In most of our schools we do not have proper storage equipment for keeping the materials when learners are not using or when schools have closed therefore it is difficult to maintain the play them and in most cases they become dusty and wear out very first.” (FGD 3)

“Teachers are not doing their part in maintaining the play materials, a teacher should come up with ways of storage and maintaining resource materials in their centres and not so solely depend on the government. One character that defines a good teacher is one who is innovative and thinks outside the box.”

This excerpt reinforced the fact that if authorities provided storage facilities then the teachers would be able to manage and maintain the play-based materials. However it is also important for the teachers to be create and find ways of keeping the materials safe for use, as this would boost the conditions of the materials. This finding differed with that of **Onyango (2013) who** found out that, when teaching and learning materials are appropriately acquired, used and stored they increase the transition rate of the preschoolers'. It was also evident that that teaching and learning material should be used in teaching the pre-school children. the research recommended that teaching and learning materials be provided by the people responsible for the same to enhance holistic development of the child and that the teachers should take the leading role in the acquisition, appropriate use and storage of the teaching and learning materials to help improve the academic part of the child.

The findings of the study show that although there was substantial measure of availability and appropriateness of content play-based materials used in preschools within Homabay County, there was significant inadequacy and inappropriateness of some aspects of play-based materials. This was mirrored by mean average rate of availability and appropriateness of content play-based materials index of 3.88 (standard deviation = 0.64).

To establish any statistical significant influence of availability and appropriateness of content play-based materials on pre-school curriculum implementation, Pearson's Product-Moment Coefficient of Correlation analysis between the scores of the two variables was conducted to test hypothesis that:

H₀4: There is no statistically significant influence of availability and Appropriateness of content play-based materials used on pre-school curriculum implementation

Table 4: Correlation between Availability and Appropriateness of Content Play-based Materials and Pre-school Curriculum Implementation

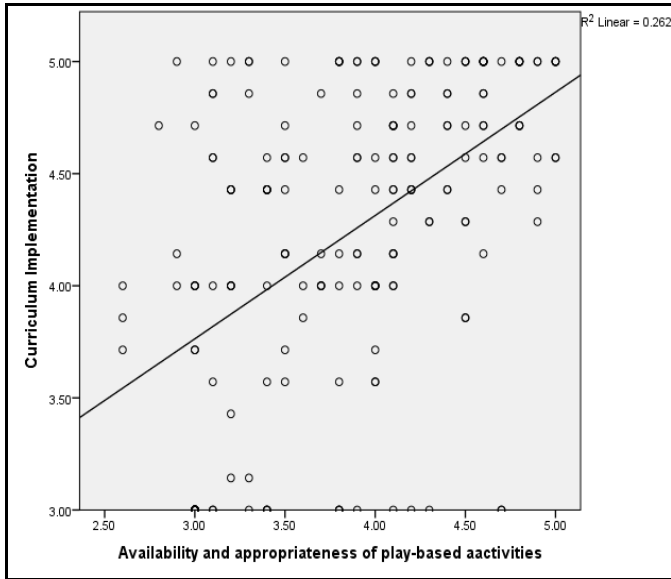
		Curriculum Implementation	Availability and appropriateness of play-based a activities
Curriculum Implementation	Pearson Correlation	1	.512**
	Sig. (2-tailed)		.000
	N	202	202
Availability and appropriateness of play-based activities	Pearson Correlation	.512**	1
	Sig. (2-tailed)	.000	
	N	202	202

** . Correlation is significant at the 0.01 level (2-tailed).

From the above it is evident that there was statistically significant but moderate positive correlation (n=202; r =.512; p <.05) between availability and appropriateness of content play-based materials, and pre-school curriculum implementation.

Given that the p-value was less than .05, the null hypothesis which stated that **“There is no statistically significant influence of availability and Appropriateness of content play-based materials used on pre-school curriculum implementation”** was rejected. It is therefore concluded that there is statistically significant positive relationship between

availability and appropriateness of content play-based materials, and pre-school curriculum implementation, with increased availability and appropriateness of content play-based materials likely to trigger effective pre-school curriculum implementation and vice versa. This was further illustrated with a scatter plot, as shown in Figure below



It is evident From Figure 4.8 that the scatter points only appear to show faint relationship between the two variables. However, distantly the pattern of the dots give the impression of the slope moving from lower left to upper right, signifying some positive correlation between the two variables. However, the line of best fit evidently slopes from lower left to upper right although the scatter points are not markedly around it.

The pattern formed is faintly visible, demonstrating that the two data sets have some correlations. However, to estimate the level of influence of availability and appropriateness of content play-based materials on pre-school curriculum implementation, a coefficient of determination was computed using simple linear regression analysis whose result is shown in the below table

Figure 1: Scatter plot graph: Availability and Appropriateness of Content Play-based Material and Pre-school Curriculum Implementation

Table 5: Model Summary: Regression Analysis of availability and Appropriateness of content play-based materials on pre-school curriculum implementation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 ^a	.262	.258	.59046

a. Predictors: (Constant), Availability and appropriateness of play-based activities

b. Dependent Variable: Curriculum Implementation

From the model, about 26% of the variation pre-school curriculum implementation in Homabay County was explained by availability and appropriateness of play-based activities, as signified by R Square of .262. This was significantly large amount of effect one predictor on the dependent variable. Further, to determine whether

availability and appropriateness of play-based activities was a significant predictor of pre-school curriculum implementation, Analysis of Variance (ANOVA) was computed as shown in Table below;

Table 6: ANOVA–Influence of Availability and Appropriateness of Play-based Activities on Pre-school Curriculum Implementation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.739	1	24.739	70.958	.000 ^b
	Residual	69.729	200	.349		
	Total	94.468	201			

a. Dependent Variable: Curriculum Implementation

b. Predictors: (Constant), Availability and appropriateness of play-based activities

The above Table is ANOVA results output which reveals that, availability and appropriateness of play-based activities statistically significantly predict the pre-school curriculum implementation, $F(1, 200) = 70.958, p < .05$. This suggests that the regression model is a good fit of the data, signifying that information on level availability and appropriateness of play-based activities could be used to significantly predict the level of pre-school curriculum implementation. Similarly Guerra and Zuccoli (2012) confirmed that working with

different types of materials makes it possible for children to develop their creativity through different but just as important pathways, useful to develop strategies for experimenting, broadening and deepening the use of materials at school both theoretically and methodologically, so that the choice of which materials to use is more and more intentional on the part of the teachers. Kanje (2009) found out that textbooks and other resource materials are essential

in teaching and learning process and enhances curriculum implementation

CONCLUSIONS AND RECOMMENDATIONS

This study investigated the influence of availability and appropriateness of content play-based materials used in pre-school on curriculum implementation. The study established that although there was substantial measure of [mean=3.88; standard deviation = 0.64] of availability and appropriateness of content play-based materials used in preschools within Homabay County, there was significant inadequacy and inappropriateness of many aspects of the play-based materials as indicated in table above. There was generally low accessibility to variety of the play-based materials; 72 (35.6%) of the preschool teachers used toys in play-based activities more frequently than real objects, while close to a half 100 (49.5%) of them used toys less frequently than real objects. Regarding appropriateness, it was established that some of the content play-based materials lacked time and age appropriateness. In addition, it was established that whereas 100 (49.6%) of the pre-schools teachers had functional content play-based materials which were in good condition, 76 (37.6%) of them had play-based activities materials which were dysfunctional and in poor condition. However, it was established that majority 147 (72.7%) of the pre-school teachers always tried to improvise play-based materials appropriate to their learners needs, where they lacked. On the relationship between availability and appropriateness of content play-based materials and curriculum implementation, it was established that there was a statistical significant (n=202; r =.512; p < 0.05) positive correlation between them.

Availability and appropriateness of content play-based materials was proved to be a significant predictor [F (1, 200) = 70.958, p < .05] in table 4.22 to pre-school curriculum implementation, accounting for about 26%, as signified by $R^2=.262$, of the variation in pre-school curriculum implementation in Homabay County as shown in table above. Moreover, the respondents strongly agreed that they provided relevant materials that the children needed for play-based activities. Pre-school teachers also confirmed most of these statements, when majority of them agreed that play-based materials were functional and in good state. However, a good number of Pre-school teachers confirmed that there was low accessibility to variety of the play-based materials. On the same note the finding of the study established that, for each one unit improvement in availability and appropriateness of content play-based materials, there is ensuing improvement in pre-school curriculum implementation by .290 units.

The study was to find out availability and appropriateness of a content Play-based materials used in pre-school curriculum implementation. It was concluded that there was a statistically significant, positive correlation between availability and appropriateness of a content Play-based materials in pre-school curriculum implementation. Use of play-based activities in pre-school teaching/learning and its influence on curriculum implementation is negated by teachers perceptions and lack of adequate, appropriate and functional content play-based materials.

This study recommends the following;

- i. The government through the County governments should enhance provision of early childhood play-based materials to enable preschool children manipulate and develop holistically.
- ii. Parents should be involved in the development of play-based materials this can be accomplished by having workshops in the schools together with the teachers
- iii. It further recommends that ministry of education to integrate varied play-based activities in the ECDE teacher curriculum during their trainings.

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