

**UTILISATION OF CHILD-CENTRED APPROACHES AND THEIR
INFLUENCE ON TEACHING AND LEARNING ACTIVITIES IN
PUBLIC EARLY CHILDHOOD EDUCATION CENTRES
IN WEST POKOT COUNTY, KENYA**

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DECLARATION

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DEDICATION

This work is dedicated to the Almighty God, our children Ian Kipkoech and Michelle Chebet for their support and prayers throughout my study period.

ABSTRACT

This study investigated utilisation of child-centred approaches and their influence in teaching and learning activities in public early childhood development education centres in West Pokot County. The study objectives were to establish utilisation of child-centred approaches in teaching and learning of Mathematics activities; Language activities; Science activities; and creative activities in public ECDE in West Pokot County. The study was guided by progressive theory developed by John Dewey. The theory proposes that in teaching and learning, attention should be given to individual child to enable him acquire required competencies. The study used a pragmatism philosophical approach. The study used a mixed methodology research approach. The study used descriptive survey design. The target population comprised of teachers and head teachers drawn from 417 ECDE Centres in West Pokot County. The ECDE centres selected were the ones which were operating under the county administration (public/community). The teachers and head teachers were selected through stratified random sampling and purposive sampling techniques respectively. This study used a questionnaire for teachers, interview guide for head teachers and observation checklist (to collect information classroom teaching and learning) to collect data. The research instruments were piloted and split half method was used to determine a reliability index through Cronbach Alpha. Quantitative data collected was analysed using descriptive statistical techniques which were frequencies, mean and standard deviation. Inferential analysis of Karl Pearson Correlation coefficient was used to test hypothesis. Quantitative data was analysed with help of SPSS. Qualitative data from open ended questions and interviews was transcribed coded in themes and reported in verbatim. The study established child-centred approaches were often ($M=3.52$ and $SD=0.51$) utilised in teaching and learning activities by teachers in ECDE centres. The study found out that utilisation of child-centred approaches by teachers had significant ($p<0.05$) effect on teaching and learning activities in Mathematics, Language, Science and Creative activities. Reports from observation and interviews revealed that child-centred approaches were moderately used by teachers in the study area. The study concluded that teachers' continuous use of discovery, child interest, child needs and activity based approaches improved teaching and learning activities in ECDE centres in West Pokot County. The study recommended that ECDE centres should be adequately supported to acquire instructional media that facilitate the use of child-centred approaches; that the government should monitor the implementation of the ECDE curriculum and provide in-service education for ECDE teachers; and that teachers should move their learning beyond the classroom and use outside environmental features to impact instruction in mathematics, language, science and creative skills.

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LIST OF ABBREVIATIONS AND ACRONYMS

ABI	Activity Based Intervention
AKF	Aga Khan Foundation
ASAL	Arid and Semi-Arid Lands
ASER	Annual Survey of Education Report
CCA	Child-centred Approaches
CPD	Continuing Professional Development
CVI	Content Validity Index
DEEWR	Department of Education Employment and Work Place Relation
ECD	Early Childhood Development
ECDE	Early Childhood Development Education
EFA	Education For All
EYLF	Early Years Learning Framework
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH – Germany
ILO	International Labour Organization
ITE	Initial Teacher Education
KICD	Kenya Institute of Curriculum Development
LCE	Literature Craft and Ethics
MOE	Ministry of Education
MRC	Madrassa Resource Centre
NACOSTI	National Commission for Science, Technology and Innovation
NGO	Non-Governmental Organization
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
TDMS	Talent Development Middle Schools – USA
TEDS-M	Teacher Education and Development Study in Mathematics
TIMSS	Trends in International Mathematics and Science Study
TTC	Teachers Training College
UNESCO	United Nations Educational Scientific and Cultural Organization
UPE	Universal Primary Education
ZPD	Zone of Proximal Development

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Overview

The chapter contains the background of the study, statement of the problem, purpose of the study, research objectives, and research questions, significance of the study, justification of the study and scope of the study. The chapter also covers delimitation of the study, limitation of the study, assumptions of the study, review of the theoretical framework, the conceptual framework and operational definitions of terms.

1.2 Background of the Study

The quality of Early Childhood Development Education (ECDE) is important, and child-centered education can improve this teaching and learning in early childhood education (Hoppenbrouwer, 2011; Chatzipanteli, Grammatikopoulos & Gregoriadis, 2013). ECDE is the foundation of all learning in any life of a child (Buyuktaskapu, 2011). The United Nations through Sustainable Development Goals (SDGs) identified ECDE as a key educational goal (United Nations, 2015). Early childhood development education has the potential to benefit learners as well as society (Moyo, Wadesango & Kurebwa, 2012; French, 2013; Crumly, 2014). In Kenya, the Basic Education Act, 2013 and Sessional Paper No. 14 of 2012 on reforming education and training sectors in Kenya acknowledge holistic needs of young children should be maximised to ensure the realisation of their full potential (Republic of Kenya [RoK], 2012, 2013). Murunga (2015) argued that a child who goes through ECDE learning successfully has higher chances of transiting to primary and secondary education. Therefore, ECDE is critical for learners' development of cognitive skills and competencies at an early age.

United Nations Education, Scientific and Cultural Organisation [UNESCO] (2012) report showed that despite commitments and progress made by countries across the world improving access to basic education, levels of learning are still too low in ECDE in developing countries including Kenya. At least 250 million primary school-age learners in developing countries around the world did not meet the minimum learning standards since they could not write, read, or count well enough, particularly learners who had spent at least four years in school (UNESCO, 2012; GIZ, 2014). This showed that problems exist in teaching and learning activities in ECDE level of education.

Wilson (2015) observed that teaching and learning approaches applied by teachers in early childhood are a matter of concern. Approaches to early childhood education teaching methods vary from country to country (Anne & Noa, 2013) and this raises a lot of doubt on the strategies employed by teachers in teaching ECDE learners (Tzuo, Yang & Wright, 2013). This study investigated the methods that preschool teachers put into use while teaching and learning in public ECDE Centres in West Pokot County, Kenya. For many years, child-centredness has dominated discourse about best practice in ECDE teaching (Madlela, 2014).

Child-centred approaches have been supported by philosophers like John Dewey, Rousseau and Pestalozzi (Morrison, Ponitz, & McClelland, 2010). This shows the benefit of teachers utilising child-centred approaches in improving quality teaching and learning in ECDE centres in contrast to traditional didactic approaches (teacher centred) to pedagogy. According to Morrison et al, (2010), in a child-centred approach a child is able to construct knowledge by her/himself without having to impart knowledge, hence stressing child's autonomy in teacher-centred classrooms.

The philosophy of education by John Dewey shows that child-centred approach emphasizes on progressive forms of education (Pollanen, 2011; Madlela, 2014; Robert, 2014). Early childhood education in Rome had a child-centred approach where learners engaged with their own learning and discovery (Anne & Noa, 2013; Wilson, 2015). In addition, the child's first language, official language and culture should be used for the cognitive, creative and emotional development of the child (Mmela, 2010; Schweisfurth, 2011). Such an approach acts against the negative impact of cultural assimilation (UNESCO, 2014) from the above information, child-centred approaches are diverse and they affect learners' achievement in the curriculum of mathematics, languages, science and creative courses.

Kember's (2009) viewed that child-centred approach in teaching is focused on the learners' interests, abilities, and learning styles where the teacher is a facilitator of learning. Child-centred teaching also entails that the teacher facilitates the task of the learners and prioritizes teaching activities, hence playing the role of a catalyst (Chamundeswari, 2013; Towett, Indoshi & Okwach, 2013; Kumary, 2014). Moreover, Kenya Early Childhood Development Framework suggest that learning has to be child-centred by recognising that children are voiceless but they are also active participants in shaping the events that influence their lives (Moraa, 2014; Murunga, 2015). It can be deduced that the child-centred teaching approach places greater value on the interaction among the learners, in place of the traditional method that places the teacher at the centre of the teaching learning activity in ECDE classrooms.

Research shows mixed reaction on the teaching approaches used by teachers and acquisition of competency skills for reading, writing and counting by researchers (Camilli, Vargas, Ryan & Barnet, 2010; Vavrus, Thomas & Bartlett, 2010; Mmela,

2010). For instance, Camilli, et al, (2010) established that direct teacher instruction correlated strongly with cognitive child outcomes, more than child-oriented instruction in United Kingdom. They stressed that, in the past many studies in ECDE have been characterized by direct teaching, while research on child-oriented practices have been less prominent. They reviewed use of child-centred approaches in Sub Saharan Africa and found out that, some schools do not consider teachers' useful concerns on the child-centred method, professional support and favourable conditions of teaching. They found that teachers often did not have adequate linguistic skills in the medium of instruction to express complex ideas and to ask critical questions in classrooms. Moreover, they observed that the examination system is aligned less with active learning and learner-centred pedagogy and more with direct instruction, pushing the teaching practices to be more teacher-centred (Vavrus et al, 2010). This shows that teacher centred instruction is a common practice in Sub Saharan countries including Kenya.

In Kenya there is concern on the quality of early childhood education which is still considered critical to the achievement of Vision 2030 through the national goals of education (Uwezo, 2014; Mutiso, 2014; Murunga, 2015). Hence, interventions should be made to overcome the challenges that would affect the attainment of quality education for all (Republic of Kenya/UNESCO, 2014; Obuchere, Okello & Odongo, 2014). There is need for Kenyan government to equip pre-primary education with adequate life skills similar to what is being done in Western countries thus helping learners to lead meaningful lives after school (Mweru, 2012; Nguku, 2015). This is because in Kenya pre-school teachers are mostly concerned in preparing the learners for primary school (Sifuna & Sawamura, 2008; Ngecha, 2011). Consequently, those who drop out after primary school level may not have gainful life skills and this is

partly contributed by inadequacy of teaching resources in pre-schools and the teaching approaches used.

The availability of key resources for early numeracy is helpful especially for child-centred teaching in kindergarten (Ogott, 2011; UNESCO, 2014). However, it is crucial that teachers using such material incorporate a focus on the ideas and the progressions that these resources are intended to develop (Venkat & Askew, 2012; Oluwatayo, 2012). A variety of instructional resources usually support establishing connections between school numeracy and the everyday life of the pupil (French, 2013; Oyinloye & Popoola, 2013). Therefore, for learners to acquire mathematic skills, instructional resources have to be provided to ensure effective implementation of child-centred approaches by ECDE teachers. This will reduce cases of learners terminating their schooling as observed by Sifuna and Sawamura (2008).

Previous scholars (Weimer, 2013; Ngware, Oketch, Mutisya & Abuya, 2010) have associated attainment of quality education with child-centred approaches, as compared with teacher-centred approaches. This is due to the fact that child-centred approaches focus on unilateral transmission of what the teacher knows followed by evaluation and recitation (Dobbs, Doctoroff & Fisher, 2003). Emphasis on what teachers do often leads to passive learners who do not take responsibility for their own learning (Balfanz & Brynes, 2006; Odinko & Williams, 2006). Further, in child-centred approach, learners are allowed to use eyes, ears, hands and the mind hence enhancing effective learning and their academic achievement (Vavrus, et al, 2011). This promotes learners acquisition of competency skills in counting, reading and writing.

Carmichael (2009) indicated that in teaching and learning approaches that promote pupil involvement, learners find learning meaningful since it increases learners' interest. In addition, child-centred teaching emphasizes high-level thinking and focus on intrinsic rather than extrinsic motivation where learners take responsibility for their learning which in turn assists learners to remember important information (Blumberg & Everett, 2009). In a study in Nandi County, Metto and Makewa (2014) observed that cooperative learning and inquiry approach as child-centred teaching strategies produced high learning achievement and motivation among learners in primary schools. In Kenya, child-centred teaching can be used to solve myriad of problems that include narrow examination-focused orientation in teaching (Schweisfurth, 2011; Rotumoi & Too, 2012; Tarimo, 2013). However, the extent to which the use of child-centred approaches in ECDE influence teaching and learning has not been adequately covered in West Pokot County thereby necessitating this study.

Another factor that partially explains teacher's non-use of child-centred approaches is limited reforms of teacher education programs across Sub-Saharan African countries (Vavrus et al, 2011; Li, 2013; UNESCO, 2014). On a survey in several sub Saharan African countries, Vavrus et al, (2011) found out that continued reliance on teacher-centred approaches was backed up by slow educational policy amendments. A research by International Labour Organization (ILO) and United Nations Education, Scientific and Cultural Organisation [UNESCO] (2014) found out that teacher training programs were insufficiently evaluated in relation to their influence on learners' academic achievement. In Kenya, according to Majanga (2011) teaching in ECDE is more of teacher focused and characterized by the 'transmission of knowledge' where learners are not involved during classroom interaction.

Teachers do all the work on the chalkboard, avoid group work, rush over lessons and do not interact equally with all learners (Ngecha, 2011). They tend to favour bright learners and ignore weaker and slow learners (Majanga, 2011; Towett et al, 2013). This can sometimes affect learners' cognitive development which is essential during their early growth. Such a scenario is disturbing and it is this that spurred the interest to undertake this study, which intended to find out the utilisation of child-centred teaching methods by teachers in public pre-primary schools in West Pokot County.

Child-centred approaches have the potential to yield better learners academic achievement than the teacher-centred methods (Tzuo et al, 2011; Wangui, 2011; Moraa, 2014). Metto and Makewa (2014) underscored the assumption by establishing that teachers 'utilisation of child-centred approaches improved learner's cognitive development in schools. However, there is a gap in implementation of ECDE principles in Kenya ECDE (Rotumoi & Too, 2012; Wangui, 2012; Murunga, 2015). Many ECDE classrooms are arranged in rows of chairs and desks where the teachers stand at chalkboard while learners face him/her (Wangui, 2011). In Kenya, child-centred methods mostly exist in the private education sector (Elimu Yetu Coalition, 2015). Rotumoi and Too (2012) observed that ECDE centres depend on primary schools management committee for daily activity support. This study investigated the Utilisation of child-centred approaches by ECDE teachers in West Pokot County.

West Pokot is one of the 47 counties in Kenya located in the North Rift Region. In education setting classification, it is considered one of the Arid and Semi-Arid Lands. Research reports have shown that quality education is affected by climatic conditions, insecurity, poverty and low literacy rate (Jerop, Nyamauncho & Kabutha, 2009). In Northern Kenya, statistics indicate that there have been challenges in marginalized

areas in aspects of children participation, enrolment, completion, retention and even achievement. The UNESCO report (2014) showed a significant growth in the ECDE sector nationally from an average of 31% in 2003 to 42% in 2007. We note that while this represents a 35.8% increase of learners accessing ECDE, the average net enrolment in ASAL areas was below 50%.

According to Uwezo (2014) arid areas were found to have the lowest ratios of trained teachers. For instance in Turkana County, they had only 252 trained ECDE teachers, against an enrolment of 30,911 giving a ratio of trained teacher per pupil of 1:123. In West Pokot the study found out that the ratio of teacher to pupil was 1:60. The high teacher: pupil ratio could affect teacher classroom instruction delivery. Moreover, inadequate number of trained teachers would affect teaching and learning methods employed by ECDE teachers in classrooms.

Trained teachers laid claim to using utilisation of conventional teaching approaches like multi grade learning (Jerop, Nyamauncho & Kabutha, 2009; Wanjiku, 2014). Due to lack of limited teacher capacities and instructional materials this was not well executed (Wawire, 2006). However, despite multi grade approaches being resource intensive, the Ministry of Education had not invested in teacher preparation and relevant materials in support. The researcher found out that only conventional materials were availed in the ECDE centres.

West Pokot County government currently employed ECDE teachers like is the case in all counties in Kenya. However it is not known if these ECDE teachers are trained on the utilisation of child-centred approaches in teaching and learning. A research by Nyangeri (2014) found out that most ECDE teachers in Kenya are forced to apply the less effective teacher-centred methods of teaching in classrooms. Learners are taught

content that is predicted to be examined while sometimes the same content is repeated several times for the learners to memorize (Ndani & Kimani, 2011; Towett et al, 2013). This affects transition of learners from ECDE to primary school level. Moreover, UNESCO (2014) report shows that most of learners in Northern Kenya counties such as West Pokot have poor skills in reading, writing, counting and speaking.

Teachers report from Northern Kenya counties showed that, learners joining class one experience competency challenges in reading, writing, speaking and even in calculations (Jerop et al, 2009). This low competency rate could relate to the teaching methods that teachers apply in classrooms. It was therefore important for the study to investigate the Utilisation of child-centred approaches in teaching and learning activities in ECDE Centres in West Pokot County.

1.3 Statement of the Problem

Teachers are central to curriculum implementation in schools. Using a pragmatist approach to education, teaching and learning activities in classroom have to be interactive where learners and teachers are active participants. Active participation of learners during instruction ensures that learners acquire the necessary competencies such as those related to mathematics, sciences, languages and creative activities. This is accomplished where teachers understand the learners' needs, take interest in their learning, help learners to discover and involve them in outdoor activities. Uwezo (2014) report on West Pokot county shows that, learners in ECDE are not able to acquire a good background on skills of literacy and numeracy which are in line with curricular requirements in their countries. This might be due to questionable teaching methods hence suggesting a crisis that demands attention.

In West Pokot County, the teacher pupil ratio is high (1:60) in ECDE as observed in the background information (Uwezo, 2014). Most of ECDE centres in this region also experience inadequate qualified teachers who are trained on how to conduct their lessons using a variety of teaching approaches. Research by Jerop et al, (2009) revealed that learners joining class one experience competency challenges in reading, writing, speaking and even in calculations. On the teaching approach, Majanga (2011) established that the in Kenyan ECDE transmission of knowledge is the most predominant and is mostly teacher focused. It is where teachers do not involve learners in classroom interaction. For example, teachers have a tendency of rushing over lessons, favouring the fast learners and ignoring weaker and slow learners during classroom discussions and do all the work on the chalkboard while avoiding group work (Majanga, 2011).

The ultimate competence of learners is expected to be realized through the use of child-centred learning methodologies by teachers. According to Metto and Makewa (2014), teachers' utilisation of child-centred approaches improved learner's cognitive development. From the above studies, it is not exactly known whether teachers' use of child-centred teaching approaches is the reason for learners' poor competencies in reading and writing in West Pokot. This was the gap that the study sought to fill. The study was carried out to investigate utilisation of child-centred approaches and their influence on teaching and learning activities in public ECDE centres in West Pokot County.

1.4 Purpose of the Study

The purpose of the study was to investigate the utilisation of child-centred approaches and its influence on teaching and learning activities in public ECDE Centres in West Pokot County.

1.5 Objectives of the Study

The study was guided by the following objectives;

1. To establish the utilisation of child-centred approaches in teaching and learning of Mathematics activities in public ECDE Centres in West Pokot County.
2. To investigate the utilisation of child-centred approaches in teaching and learning of Language activities in public ECDE Centres in West Pokot County.
3. To establish the utilisation of child-centred approaches in teaching and learning of Science activities in public ECDE Centres in West Pokot County.
4. To assess the utilisation of child-centred approaches in teaching and learning of Creative activities in public ECDE Centres in West Pokot County.

1.6 Research Questions

The study was guided by the following research questions;

1. What is the status of teacher utilisation of child-centred approaches in the teaching and learning of Mathematics activities in ECDE in West Pokot County?
2. How do teachers utilize child-centred approaches in teaching and learning of Language activities in ECDE in West Pokot County?

3. What is the status of teacher utilisation of child-centred approaches in teaching and learning of Science activities in ECDE in West Pokot County?
4. In what ways do teachers utilize child-centred approaches in teaching and learning of creative activities in ECDE in West Pokot County?

1.7 Research Hypothesis

The study tested the following null hypothesis

- H₀₁ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of Mathematics activities in ECDE in West Pokot County.
- H₀₂ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of language activities in ECDE in West Pokot County.
- H₀₃ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of sciences activities in ECDE in West Pokot County.
- H₀₄ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of creative activities in ECDE in West Pokot County.

1.8 Justification of the Study

Approaches to teaching and learning are critical to child development. In order to make primary education broad based and stronger than before, there is a need to strengthen the ECDE education component. Despite ECDE being important in providing emotional, cognitive, physical, language and social skills in young children, its pedagogy has been given less attention especially when it comes to child-centred

methods in Kenya. This bars children from attaining the necessary skills for use in primary level of education. This study will therefore benefit teachers and managers in ECDE, scholars and government by assessing how teachers utilize child-centred approaches in the teaching and learning activities.

The approaches that ECDE teachers use usually form the basic medium through which learners acquire knowledge and grow academically. Teaching approaches are diverse and in ECDE in Kenya, the government recommends that child-centred approaches be used (RoK, 2013). However, it is not known how teachers utilize these approaches. In Kenya, most of the ECDE centres have inadequate physical and human resources for implementation of teaching approaches in teaching ECDE learners (Murunga, 2015). In ECDE, most of the head teachers are said to be inadequately compliant with recommended teaching approaches and hence, may not be in a position to advice the teachers concerning the effective teaching approaches such as the child-centred approaches (Bitok, Tonui, Chepsiror & Too, 2014).

When learners receive quality education, they will be in a position to discover new knowledge and develop understanding. Child-centred approaches put learners first, acknowledging learners' voice as central to successful teaching and learning process. In this case, the use of child-centred approaches emphasises each learner's interests, abilities and learning styles thereby placing the teacher as a facilitator. This study investigated teacher Utilisation of child-centred approaches in the teaching and learning activities in ECDE in West Pokot County.

1.9 Significance of the Study

The findings from this study are useful to: ECDE teachers, curriculum developers, learners and future researchers. At first, teachers will benefit from the study findings as it will shed light on any deficiencies in their use of effective teaching approaches in ECDE and make appropriate recommendations for improvement. Secondly, the findings of the research will be of great help to the Kenya Institute of Curriculum Development (KICD) in its efforts in syllabus development and review, development of curriculum support materials and provision of in-service education to practising teachers.

To learners, the findings and recommendations of the study will provide them with opportunities through which they can experience the child-centred approaches to instruction that can enhance quality education. Through the recommended teaching methods, learners will develop critical skills in Science, Mathematics, Languages and Creative activities. To future scholars, the study findings contribute to the existing body of knowledge on teacher utilisation of child-centred approaches in the teaching and learning activities in ECDE in West Pokot County and Kenya in particular. This will help to build new knowledge that can be used as a reference point in future studies in ECDE.

1.10 Assumption of the Study

The study was guided by the following assumptions:

- i) The teachers were willing to co-operate and comment honestly and truthfully on the extent to which they utilize child-centred approaches in teaching and learning activities in ECDE.
- ii) All teachers in ECDE understand child-centred approaches.

1.11 Scope and Delimitation of the Study

The study was conducted in the 41 public ECDE centres in West Pokot County. The respondents comprised of 41 head teachers and 168 teachers totalling to 209 respondents. Stratified and simple random sampling techniques were used in selecting the respondents. The study was delimited to the teaching staff since they are placed in strategic positions on the use of child-centred approaches in the instructional process. Head teachers were involved in the study because they act as curriculum supervisors by overseeing the teaching and learning process in the schools. Data was collected from head teachers and teachers, after which it was coded, analysed and recorded. The study was conducted between September and April 2016.

1.12 Limitations of the Study

One of the limitations in this study is that some schools in West Pokot County started their lessons early in the morning and ended at noon and this proved to be a challenge in reaching those schools. The researcher had to get research assistant living in the area who assisted in data collection. The research assistants were trained on how to collect data and the ethical procedures pertaining data collection by the researcher before being engaged in the research. During the interview, some of the head teachers were not at ease while giving out the information about their respective schools, until they were assured of confidentiality and that the exercise was specifically for research purposes. Not all classes were observed (only 41 classes) as the period of the study coincided with end of year examinations.

1.13 Theoretical Framework

The study was guided by John Dewey's progressive theory of education which emphasizes the need to learn by doing (Gaido, 2005). Dewey believed in the teaching and learning process that emphasizes the need to learn by doing. In this case, learners in classrooms have to be active and not passive participants. This argument placed Dewey in the educational philosophy of pragmatism that the study utilised. Pragmatists believed that reality must be experienced. This implies that learners have to interact with their environment in order to acquire basic competencies in Mathematics, Languages, Science and Creative activities. Dewey developed his views on child-centred education from previous works of scholars such as Rousseau, Pestalozzi and Froebel. His work was based on the movement for reformation to child-centred education.

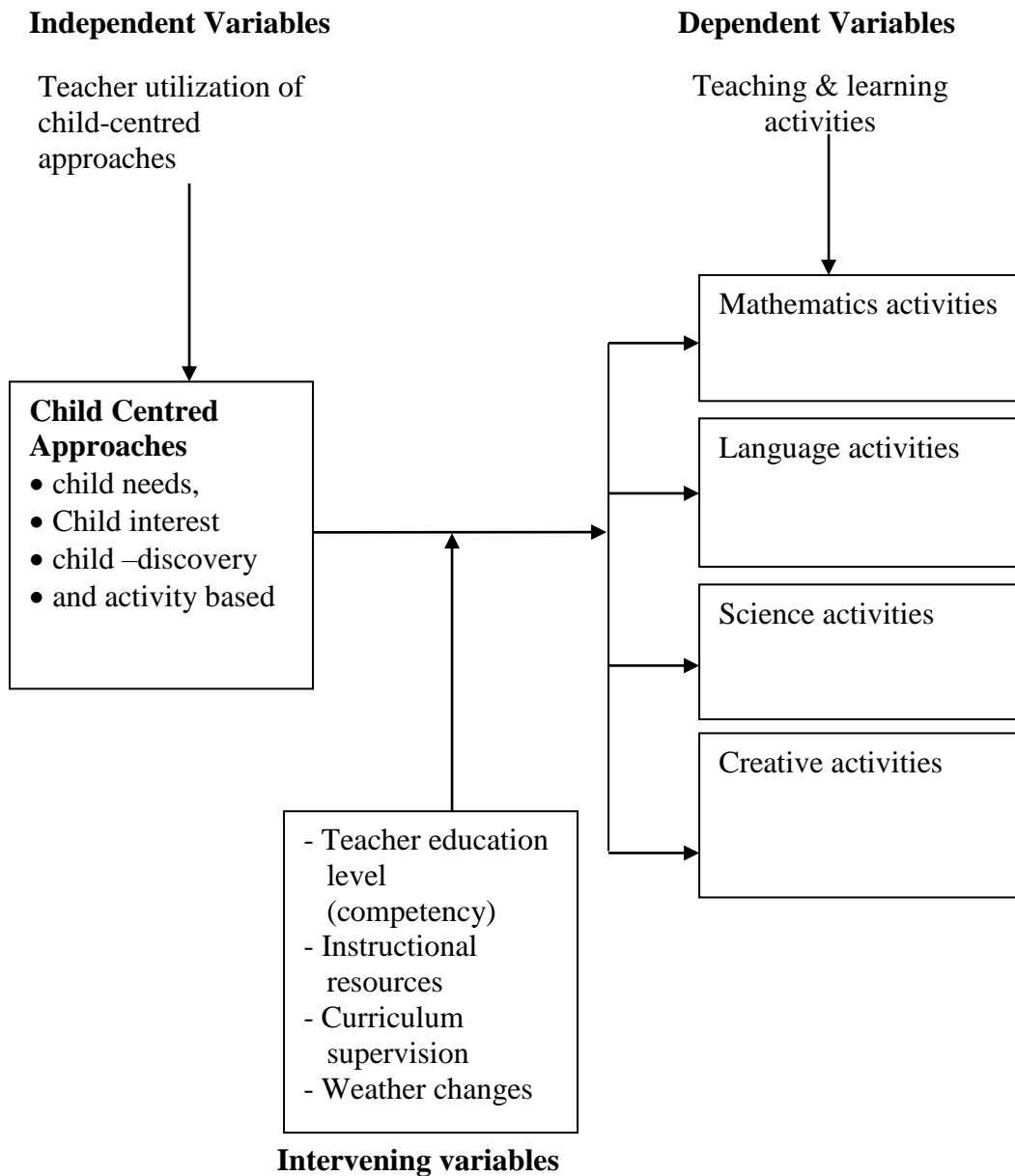
The progressive education theory is based on the attention of each individual child. Dewey suggested that in the teaching and learning process, the actual interests of the child must be discovered if the significance and worth of his/her life is to be taken into account and full development achieved. By getting the interest of the child on board during instruction, it mobilises the maximum effort of learners acquiring knowledge as well as in performing tasks. Dewey also said that children should not be locked in the classroom but should be allowed to go outdoors (activity based approach) and experience the everyday life of their communities. This helps the children to realise their capacities in an unobstructed environment. These experiences can be learned through games and plays which are techniques under child-centred teaching methods.

Moreover, Dewey observed that sometimes children need to be alone and on their own (through group work). This will help them to learn more by doing activities together in groups (child-interest approach). By selecting what their group would like to do, planning their assignments, helping one another do various activities, trying out various ways and means of performing the tasks, by being involved and discovering what will happen, it will assist the learners to develop skills, understanding, self-reliance and cooperative habits.

From the views by Dewey, it is clear that teachers and learners have to work together to ensure curriculum goals are achieved. Dewey believed that ideal classrooms should be 'democratic' which promote equal participation among all participants in the learning experience. This study majored on teacher utilisation of child-centred approaches: child interests, child needs, child discovery and activity based strategies. These strategies requires learners and teachers to work together to ensure teaching and learning activities progresses well. Dewey's theory formed the foundation for investigating teacher Utilisation of child-centred approaches in the teaching and learning activities in ECDE in West Pokot County, Kenya.

1.14 Conceptual Framework

The conceptual framework refers to relationships among various variables. It is normally presented diagrammatically (Ogula, 2009). The conceptual framework that was used in this research depicts the various variables under study as illustrated in Figure 1.1.



Source: Author, (2015)

Figure 1.1 Conceptual framework of the study

Figure 1.1 above represents independent and dependent variables of the study. The independent variables that are activity-based approach, child interest approach, child discovery approach; child needs approach and dependent variable teaching and learning in ECDE. Activities based approach that is measured by teachers being able to keep an open mind about a child, crossing thinking child information to see what the child is interested on. Talking informally to the child's family, acceptance

individual conversations, paying attention, maintaining supervision and awareness, being good listener and observer, these are child needs characteristics.

In child interest, approach teachers allow learners to write list of what they need, assess learners' interest, use and select teaching materials that interest learners in a classroom. Child discovery is an approach where teacher allows learners to experiment with different types of building materials. The teachers also can ask the learners to work in teams to build the tallest tower they can with the cardboard blocks. It also involves reading a story to learners and print work of fine art, such as solar system and encourage learners to study the painting and create their own interpretation. Activity based approach is a way of teaching and sparing time for creative lessons such as teaching through play, drama arts. If the four child-centred learning approaches are effectively implemented, they are likely to boast learners' writing, reading, listening and speaking skills and hence ECDE learner education achievement.

However, intervening factors which the teacher has no control over may somehow affect their use of child-centred approaches in teaching and learning activities. These indicators are; teacher education level (competency), instructional resources, and curriculum supervision and weather changes. For instance, during the drought season, teachers cannot be able to teach science activities due to dryness. Also, schools instructional resources and supervision may in some way affect the frequency to which teaching and learning activities occur. To address the effect of intervening variables, the researcher assumed that all schools have instructional resources and teachers were competent in utilising various child-centred teaching approaches.

1.15 Operational Definitions of Terms

Activity based: It is a teaching method adopted by a teacher in which learners participate rigorously and bring about efficient learning experiences. Learning by doing is the main focus in this method.

Utilisation: It refers to the use of child-centred approaches by ECDE teachers in teaching and learning process.

Child-centred approaches: Means teaching and learning methodologies or strategies that are centred on learners' involvement in generating new knowledge with the assistance of a teacher. These approaches include child needs, activity based, child interest and discovery approaches.

Child discovery approach: It is a technique of inquiry based learning. Discovery learning takes place in problem solving situations where the learner draws on his own experience and prior knowledge. Teachers record this observation from learners to help them expand their knowledge. It is mostly known as Reggio Emilia approach.

Child interest approach: It is a pupil centred approaches in which teachers allow learners to select activities based on the areas of their likes. This can be through teachers offering choices on what they need to teach to improve learner motivation.

Child needs approach: It is a child-centred teaching method that ensures that teachers meet the individual needs of each child. This happens through teachers assessing the strengths and weakness of each child and devising appropriate methods to help them.

Creative activities: They are actions that stimulate pre-school child imagination and creativity by helping them with physical and mental development. This may be through performing arts, crafts, singing, plays, games, painting, drawing, sculpturing and constructions.

Early Childhood Development Education: Refers to curriculum or education that is provided to learners aged between three and nine years in pre-primary and standard one to three in primary schools.

Language activities: Refers to actions that help ECDE children develop their listening, speaking, reading and writing skills in language. These activities comprise of play, recitation of rhymes and poems, singing, listening to and telling stories, radio lessons among others.

Mathematics activities: They are activities aimed at helping pre-school learners get acquainted with skills and concepts of classification, numbers, shapes and measurements.

Science activities: They are activities that expose the children to skills and concepts that enhance their understanding of their natural environment such as animals and plants and their classifications; experiments and field excursions.

Teaching and learning activities: Refers to activities and procedures that teachers and learners get involved in during instruction in ECDE. In this study, the teaching and learning activities that were investigated are those undertaken in Mathematics, Language, Creative and Science activities.

1.16 Chapter Summary

In this chapter the introduction and background of the study are outlined and the research problem and objectives are spelt out. Other sections in this Chapter include the significance of the study, scope, assumptions, limitations, theoretical and conceptual frameworks and finally, the operational definition of key terms used in the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter discusses the empirical literature related to the utilisation of child-centred approaches in teaching and learning activities in ECDE centres. The chapter reviews historical background and conceptual background of child-centred approaches. Furthermore, the chapter reviews theoretical and empirical literature relating to the utilisation of child-centred approaches in teaching and learning of Mathematics, Language, Science and Creative activities. A literature gap and summary of the literature are also presented.

2.2 Historical Background of Child-Centred Approach

Morrison, Ponitz and McClelland (2010) reported that child-centred education has a long history of development. Two of the first educators to put emphasis on the learner were Confucius and Socrates (5th to 4th centuries B.C.). Over two millennia passed before seventeenth century Englishman John Locke introduced experiential education (Barbara & Tamba, 2007). Another two hundred years passed before European educators Pestalozzi, Hegel, Herbart, and Froebel designed and popularized experience-based, learner-centred circular (Morrison, 2010; Maheshwari, 2013; Madlela, 2014). Swiss psychologist Rousseau and American John Dewey shaped the existing child-centred education into a program called constructivism (Blakemore & Frith, 2005). This study traces the historical background of child centred approach and examines the contributions of each of philosophers behind it.

The Swiss-born philosopher Jean Jacques Rousseau (1712-1778) was one of history's greatest contradictions (Henson, 2003; Madlela, 2014). Rousseau recommended a

type of education that at the time was unknown, an education that was natural, child-centred, and experience-based (Crumly, 2014). His intent was to protect the children from a corrupting society and permit them to develop naturally. Influenced by Rousseau's writings, a European neighbour in Switzerland designed a pupil-centred school (Marrison et al, 2010). In Switzerland, Johann Pestalozzi (1746-1827) opened a school with a learner-centred curriculum (Madlela, 2014). Pestalozzi believed that the whole child should be educated (physically, mentally, and emotionally), and that children should be nourished like a plant while they learned by doing (Madlela, 2014).

Pestalozzi believed that teachers must respect children and base their discipline on love (Marrison, 2010; Madlela, 2014). He said that the school should be like a good home and the teacher should be like a good parent. In Germany, Fredrick Froebel used the learner-centred, child-centred, experience-based ideas to develop the world's first kindergarten, a school for young children (Madlela 2014). John Dewey (1859-1952) used his very long life (92 years) to exert more influence on education and philosophy than any other American, before or since (Li, 2013). Dewey was influenced by Locke's *tabula rasa* and Immanuel Kant's pragmatism (the idea that philosophy is only valuable if one can apply it) (Morrison, 2010). Dewey's works were made powerful because he recognized that each child has both a psychological dimension and a social dimension and to be effective, education must begin with understanding how the child's capacities, interests, and habits can be directed to help the child succeed in the community (Majanga, 2011; Madlela, 2014).

In opposition to Rousseau, who wanted to protect children from society, Madlela (2014) believed that the only way a child would develop to its potential was in a

social setting. Dewey believed that the school should be a microcosm of its community and that education is living, not just a preparation for life (Dewey, 1990).

Dewey viewed life as a process of continuous renewal, a series of on-going experiments. Morrison et al, (2010) view of child-centred education embraced the idea that education should be both problem-based and fun; unless a given experience leads out into a field of previously unfamiliar no problems arise, while problems are the stimulus to thinking. Dewey believed that the experiences of each learner must come from within each individual learner (Nasibi, 2005). Dewey was saying that each experience should leave each student motivated and that the solving of each problem must lead to new, related questions about the topic (Morrison, et al, 2010).

Another idea that enabled Dewey to advance the theory of learner-centred education was his recognition of what he called collateral learning, an idea that has since been labelled confluent learning (Madlela, 2014). Morrison et al, (2010) considered this type of learner-centred education the richest of all. Confluent learning in the way of information of enduring attitudes, of likes and dislikes, may be and often is much more important than the spelling lessons (Platz & Arellano, 2011). Child-centred education was advanced by the Progressive Education Association, which was formed in 1919 (Madlela, 2014). This study found this approach equal or superior to traditional education in every way.

Some of the advantages of child-centred education over the traditional teacher-centred education included the learners: attaining higher grades, attaining more academic honours, developing superior intellectual curiosity, developing superior creativity, developing superior drive, developing superior leadership skills, becoming more

aware of world events and developing more objectivity (Henson, 2003; Wachanga & Mwangi, 2004; Robert, 2014).

2.2.1 Objectives of Early Childhood Development Education in Kenya

Early Childhood Development Education (ECDE) globally and Kenya in particular has been recognized as a crucial programme that lays a foundation for a child's holistic and integrated education that meets the cognitive, social, moral, spiritual, emotional, physical and developmental needs (Githinji & Kanga, 2011). Early Childhood Education (ECDE) is both the formal and informal education that the child receives as she/he grows (Rotumoi & Too, 2012; Wanjiku, 2014). Informal setting of ECDE takes place at home, school, and playground in the community (Uwezo, 2014). Children investigate and experiment what they see through observation and imitation (URT, 2008). The formal setting is in form of early school arrangement such as nursery school, kindergarten and institutional homes (Wawire, 2006).

In 2006, the Kenya government adopted a policy on Early Childhood Development (RoK, 2015). The policy document outlines a comprehensive framework that encompasses policies for early childhood services and programs for children from conception to age eight years. Also, it outlines an ECD policy system and provides a frame of reference in the provision of services for infants and children (RoK, 2015). Further, it provides a basis to strengthen, develop, and review policies related to health and nutrition, education, water and sanitation, and social services. According to the policy document, the Republic of Kenya sector policies are central in providing standards and guidelines for ensuring provision of quality services for all children in their earliest years (Kang'ethe, Wakahiu & Karanja, 2015).

The ECD Policy Framework came into being in 2006, and provides a coordination mechanism, explicitly defining the role of parents, communities, various Government ministries and departments, development partners and other stakeholders, in the provision of ECD services (Wangui, 2011). A service standard guideline was developed as a separate document aimed at operationalizing the ECD policy framework (K.I.E, 2008). Developers of the ECD policy framework recognized the critical role of investing in young children as a strategy to for poverty reduction, universal school enrolment, reduction of child mortality and morbidity, maternal mortality and creation of gender equality (Kang'ethe et al, 2015).

To achieve this, the policy framework emphasizes child survival, growth and development (RoK, 2015). This is also in line with the African Union (AU) declaration to strengthen and support families in their responsibility as primary caregivers of their children to ensure their survival, growth and development (Kang'ethe et al, 2015). The policy implementation outputs included: trained and sensitized education officers; teachers and sensitized parents; teachers in public ECD centers employed by government; ECD reception classes in primary schools; feeding programs; safety and protection programs in ECD centres; appropriate teacher child ratio in ECD classes; water and sanitation provided among other services as described in the service standards guidelines.

In Kenya ECDE is offered by institutions bearing various names (Bitok et al, 2014). The most commonly used terms include: Early childhood development, Children's homes, ECDE Pre-primary, Pre-school education, Pre-unit, Nursery, Baby Care, Day care centers, Baby class/infant class, Kindergarten, Home care. However, the Ministry of Education Science and Technology (MOEST) in collaboration with National

Centre for Early Childhood Education (NACECE) has harmonized these names (Kang'ethe et al, 2015). Currently the following terms are used to refer to pre-schools: Pre-primary 1, Pre-primary 11 and Day care in place of all the above names. Pre-primary 1 refers to learning for children 4 years of age; Pre-primary 11 refers to learning for children 5 years of age. Day Care refers to care for children 3 years and below (Kenya Institute of Education, 2009; RoK, 2015).

The main objective of pre-primary school is to ensure the total development of a child physical, spiritual, social and mental is brought about through an informal mode of interaction with the parents and community taking a leading role (RoK, 2015). Issues including health, nutrition, care and education are the major focus in pre-primary education (Republic of Kenya, 2015; United Nations, 2015). The general objectives of Early Childhood Development and Education in Kenya should: provide education geared towards development of the child's mental capabilities and physical growth; enable the child enjoy living and learning through play; develop the child's self-awareness, self-esteem and self-confidence, enable the child to develop understanding and appreciation of his/her culture and environment and foster the child's exploration skills, creativity, self-expression and discovery.

The objectives will also identify children with special needs and align them with existing services; enable the child build good habits and acquire acceptable values and behaviours for effective living as an individual and a member of a group; foster the spiritual and moral growth of the child; improve the status of the child's health, care and nutritional needs, and link him/her with health services such as immunization, health check-ups and growth and monitoring; enrich the child's experiences to enable

him/her to cope better with primary school life and develop the child's aesthetic and artistic skills (RoK, 2015).

Early childhood development and education (ECDE) covers the same activity areas for all children (Bitok et al, 2014; Wanjiku, 2014). The activity areas include language, mathematics; out-door activities, science, social studies, creative, music and movement, religious education and life skills (K.I.E, 2008). An ECDE teacher is required among other things to prepare young children for primary school and guide them in interesting activities as required by the ECDE syllabus and hard book (Wangui, 2012; Murunga, 2015). The activity areas include language number work out door, science, social studies, creative, religious education, life skills and music (RoK, 2015).

The teacher's role also includes; providing early stimulation for the future development of the child. They provide learning and play materials (MoE, 2015; Bouchard et al, 2010). They play a major role in providing children with stimulating activities that arouse the children's curiosity and enhance various skills in them such as discovery and observation (RoK, 2015). This study investigated how teachers utilization of child-centred approaches influence teaching and learning activities in; mathematics, creative, science and languages.

2.2 Concept of Child-Centred Approach

Tzuo, Hui and Kay (2011) defined the child-centred approach as an utilisation within the field of child development that permits learners to decide their own choices and establish their own ways of encouraging competent communication and learning in school. Child-centred approach looks at the concept of permitting more freedom to the child, giving them the ability to use their own individual approach (Worth, 2010;

Chepkemoi, Osman & Kipng'etich, 2013). This type of child development encourages children to explore their interests and ask questions on their own (Madlela, 2014). The method focuses on developing a child's unique sense of creativity not just through artistic expression, but in how children learn new ideas in schools and solve problems (Chung & Walsh, 2010; Mmela, 2010). The technique dictates that teachers, instead of telling the learner exactly what they have to do in class, the teachers need to observe more passively by giving the child the space to learn and grow in his or her own way (Madlela, 2014).

A study by Morrison et al, (2010) stated that child-centred approach is an instructional approach in which learners influence the content, activities, materials, and pace of learning. The child centred learning model places the learners at the heart of the learning process (Kember, 2009). The teacher provides learners with opportunities to learn independently and from one another and instruct those in the skills they need to do so effectively (Kember & David, 2009). The child-centred approach includes; substituting active instructional experiences for lectures, teacher assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving learners in simulations and role plays, and cooperative based learning (Madlela, 2014). Morrison et al, (2010) assert that properly implemented child-centred approach can lead to increased motivation to learn, greater retention of knowledge, deeper understanding, and more positive attitudes towards the subject being taught (Morrison et al, 2010).

Child-centred approach, also known as learner-centred education involves teaching approaches that shift the focus of learning from the teacher to the pupil (Wangui, 2012; Wanjiku, 2014). In original usage, child-centred learning aims to develop

learners' autonomy and independence by putting responsibility for the learning path in the hands of learners (Madlela, 2014). Child-centred instruction focuses on skills and practices that result to learners' lifelong learning and independent problem solving skills (Matsau, 2007). Child-centred learning theory and practices are based on constructivist theories that emphasize the pupil's important role in constructing meaning from new information and prior experience in class

In the views of Wright (2011), child-centred approach puts learners' interests' first, acknowledging learners voice as essential to learning experience. In a child-centred classroom, learners select what they will learn, how they will learn, and how they will assess their own learning (McLeod, 2007; Maheshwari, 2013). This is in contrast to teacher-centred approach, also known as the traditional learning method. In the teacher-centred methods, the teacher is situated as the primarily active role while learners take a more passive and receptive role. In a teacher-centred classroom, teachers choose what the learners will learn, how the learners will learn, and how the learners will be assessed on their learning. In contrast, child-centred learning requires learners in class to be active, responsible participants in their own learning and with their own pace of learning (Mmela, 2010; Minner, 2010; Moyo, Wadesango & Kurebwa, 2012).

Child-centred teaching approach is a method of learning that puts the pupil at the centre of learning (MacHemer & Crowford, 2007; Kember & David, 2009; Mutiso, 2014). In this situation, there is necessarily a shift in focus from academic teaching staff (teacher) to the pupil. The child-centred approach has much consequence for design and flexibility of curriculum, course content, and interactivity of the learning process in schools. A study by Morrison et al, (2010) stated that child-centred

approach is considered to be a philosophy, as opposed to a methodology, and therefore no two classrooms are alike. A child-centred teacher tries to create an environment that will motivate learners to realise new skills and knowledge (Mweru, 2012).

In this approach, teachers are not supposed to transfer facts into passive learners' heads but facilitate their discovery of relevant information to build on knowledge (Nyangeri, 2014). Therefore, teachers rarely stand in front of the class and teach a lesson as it had been there before (Platz & Arellano, 2011). In its place, activity and nature centres may be set up around the classroom with the learners moving from station to station, or learners might be assigned by their teachers to work together in groups on a certain project. Teachers can use child-centred methods such as peer tutoring, individual and group projects, and teacher conferencing with one child while the rest of the class work on some activities (Preszler, 2009).

In the views of Lynne (2007), child-centred learning refers to instructional methods that recognize individual differences in learners in class. In this sense, child-centred learning accentuate each pupil's interests, abilities, and learning styles, placing the teacher as a facilitator of learning for individuals rather than for the class as a whole (Sarah, 2013; Rotumoi & Too, 2012). Li (2013) asserted that the development of countries across the world encompasses much more than economic growth. She argued that people are the most important resource of a country and the basis for its progress and development. No development can be achieved without having competent people (UNESCO, 2015; Kang'ethe et al, 2015). Human well-being and dignity is both the central purpose of development as well as of the primary means towards development (Vavrus et al, 2011; UN, 2015). Therefore, sustainable human

development is based on enhancing people's well-being and creating conditions of equality that enable all to realize their full potential.

Child-centred approaches to development represent an opportunity to tackle seemingly intractable problems of poverty (Uwezo, 2014). To break inter-generational cycles of denial and patterns of discrimination, children are usually the starting point (UNESCO, 2015). Promoting development that is directed by the best interests of the pupil and oriented towards realizing the rights of learners ensures sustainable human development (UN, 2015). Crumly (2014) indicate that the well-being of learners in school translates into the well-being of a nation. It is usually the yardstick for measuring national development (Venkat & Askew, 2012). This showed that when proper learning takes place, national development goals will be realised.

The teaching methods used by ECDE teachers in pre-schools have been the focus of considerable academic discussion over the years (Wachanga & Mwangi, 2004; Tzuo et al, 2011; Crumly, 2014). Central to this debate has been the role of the teacher in bringing about learning and the extent to which learning is fully child-centred. Some theorists (Madlela, 2014) argue that as soon as teachers begin lesson teaching and learning, the focus of the lesson moves from being child-centred and spontaneous to one that is teacher led and over structured. This argument has come under sharp focus in recent years where physical education curricula have been designed to have an impact on the perceived obesity crisis and decreasing rates of physical activity among learners.

Blumberg and Everett (2008) attested that child-centred curriculum design is Problem-Based Learning (PBL). This approach allows for choice within a programme of area that learners may study. It allows students to set some of their own learning

objectives dependent on prior learning and knowledge (Wilson, 2015). Problem based learning through the use of problems, issues and triggers is seen by Blumberg and Everett (2008) as encouraging learners to develop their own learning goals, thereby filling in the gaps in their knowledge or understanding.

In the child-centred teaching approach the processes and purposes of assessment according to Blumberg and Everett (2008) shifts from assigning of grades to include constructive feedback and to assist with improvement. This then means that the child-centred teaching approach uses assessment as a part of the learning process (William, Rothwell & Kazana, 2011). Blumberg and Everett (2008) continue to assert that in the child-centred teaching approach, criterion-referenced, formative and summative assessment methods can be used. The foregoing discussion above show that learners only benefit during the lesson if the teacher assumes the role of a facilitator, and allows them to do the rest instead of him/her dominating in class with learners playing a passive and boring role of being listeners. Natural science teachers therefore in light of this need to allow learners to play a vital role in class during lessons, and teachers have to play the role of facilitators of learning (Madlela, 2014).

Another child-centred teaching approach is the group work; Jennifer (2006) argued that the teacher can direct a discussion by asking questions before and during the session. These questions are the ones that should offer a starting point of the discussion (Wangui, 2011). Jennifer (2006) argued that in order for the discussions to be live, questions asked should be open ended ones that to encourage multiple view points from learners. It is the act of talking about something with another person or a group of people, for example learners engaged in a heated discussion about disposal of industrial waste material into community streams and rivers. On the other hand,

Fink (2004) asserts that a discussion is a speech or piece of writing that gives information, ideas, and opinions about something or a topic. For example in Natural Science learners discussing about the effects of global warming to the environment. In the process of discussing this topic learners are likely to come up with the positive and negative effects of global warming to the environment (Worth, 2010).

Shelly, Gunter and Gunter (2010) asserted that many topics are taught better through the use of digital media integration into the curriculum in the classroom. Digital media makes it possible to concurrently use, simulations, animations, video, audio, and text (Starko, 2010). If this happens in class learners are able to understand concepts better. The digital media makes the life of the teacher easy in class, because even if the teacher does not have resources to take learners to gorges, craters, planetariums, savannahs, deserts, and river banks, he can bring DVDs of these areas and give them to his learners to navigate through on their computer and lap-top screens without having to travel for long days and hours to physically reach these places (Shelly et al, 2010).

Group work is another child-centred teaching method that ECDE teachers can utilise in their classrooms (Schweisfurth, 2011; Oyinyole & Popoola, 2013). Group work or cooperative learning according to Burdett (2003) and Preszler (2009) is a method of instruction that allows learners to work together in groups. Preszler (2009) is of the opinion that nowadays it is important for learners to work co-operatively as a group, because even after they have completed schooling, at work places employers value a person's ability to work co-operatively due to the fact that in contemporary work places, people work in teams which are usually cross disciplinary and quite diverse. In light of this, it can be said that learners are as diverse as their communities (Burdett,

2003). So working in groups in class would enable learners to come into terms and cope up with diversity issues at a tender age (Madlela, 2014). This would positively prepare them for reality at work places and societies (Ogulla, 2009). Based on this argument and definitions, this study argues that approaches to early childhood education vary enormously from country to country and raise many questions regarding appropriate child-centred strategies to use in the classroom.

Madlela (2014) advocated a child-centred approach which builds on early childhood teachers existing knowledge and understanding, values the role of skilful observation and task design, and is based on methods that facilitate holistic development of learners in early childhood education. The techniques discussed are strategies through which the teachers can ensure that learning in ECDE remains in the exploratory world of early childhood allowing for the child to develop skills at their own speed through provision of opportunity (Matsau, 2007; Mmela, 2010).

Child-centred pedagogy is a critical element in the development of teachers' pedagogical content knowledge because pupil learning depends on teachers' ability to transform their subjects to a large extent into lessons that learners can comprehend. This is a prerequisite for the higher-order thinking skills of analysis and critique because learners must first understand key terms and concepts and it is a process fostered by discovery and inquiry-based activities which are child-centred in nature (Nasibi, 2005; Obuchere et al, 2014). If pupil learning is the centre of the pedagogical endeavour, then teachers themselves need to learn how to bridge the divide between expertise in one's discipline and in pedagogy and to model it in their classes regardless of the subject they are teaching. In their study, Vavrus et al, (2011) found out the limited use of learner-centred pedagogy in most Teacher Training Colleges

(TTCs) and university teachers' education programmes helped to explain some of the idealistic concerns of teachers about its merits and challenging material conditions.

K.I.E (2008) adds that the teachers have a role of applying approaches that are child-centred, motivating and those that sustain interest. Children need to be involved in participatory activities and manipulation of play materials (Ngecha, 2011; Mweru, 2012). One such method is thematic approach whereby learning takes place based on a theme. K.I.E (2008) claims that, the teachers' role is to provide relevant, adequate, safe and age appropriate play materials. Therefore, for ECDE to have adequate effect on the children with HI, they need a skilful teacher (Ng'ong'a, 2002). This is supported by Vygotsky's theory which states that a child's potential development requires social interaction with the teachers and the peers (Wangui, 2011; Wangui, 2012). This study determined the utilisation of child-centred approaches and their influence on teaching and learning activities in ECDE centres in West Pokot County.

2.3.1 Child-Centred Approaches in Teaching and Learning of Mathematics Activities

Mathematical skills are pre-requisite in learners' everyday lives (Jemma & Bull, 2008). On the other hand, the level of acquisition and mastery of the essential skills in Mathematics and other fields can be facilitated by effective teaching (GIZ, 2014). Popoola (2014) established six categories of Mathematics activities that comprise of: counting, locating, measuring, designing, playing, and explaining. Numeracy skills by learners are the foundation of mathematics. Popoola (2014) indicated that numeracy skills are important aspects of literacy skills that ECDE learners acquire in schools. Oyinloye and Oyedeji (2011) informed that literacy skills such as listening, writing, reading, and speaking cannot be considered complete without including the aspects of

mathematics activities like addition, sorting by colours and by shapes. The act of additions, and sorting of colours are important foundations of learners acquisition of numeracy skills (Hoppenbrouwer, 2011; Guarino, Dieterle, Bargagliotti & Mason, 2013).

Concerns have been raised on the low performance in numeracy skills by most learners in primary schools in several countries in Sub Saharan Africa, Latin America and East Asia (Vavrus et al, 2011; Pritchett & Beatty, 2012). Evidence from South Africa indicates that limited moves by pupils beyond highly concrete unit counting approaches across the primary school years (Schollar, 2008; Ensor et al, 2009; Vavrus et al, 2011). The performance in numeracy in most third world countries comparative assessment frequently indicate that most of learners in schools tend to fall below low performance thresholds (Mullis, Martin, Foy, & Arora, 2011; UNESCO, 2014).

Further, some studies point to little change in performance trends in numeracy skills in most schools (French, 2013; GIZ, 2014; Uwezo, 2014). This pointed out the general limited progress in early childhood education in rendering access to broader mathematical understandings. In addition, Popoola, (2010) showed that many learners at secondary education levels performed poorly in numerical tasks. This situation has been traced to deficient literacy skills at ECDE level (Suporitz, Foley & Mishood, 2012) as the reason for this can be traced to poor foundation. The crucial role that teachers play in children's education is also highlighted by the UNESCO (2015) Policy Paper No. 7 which addressed the crisis in early childhood education teaching. This policy paper pointed out that in many countries; teachers at lower grades are not well prepared to teach leading to hundreds of millions of students completing primary schools without having learnt the basics. The policy paper named the example of East

Asian countries which showed that teacher knowledge and the support they received in pre-service and in-service was reflected in their learners' academic performance. The report went on to state that lack of resources and public primary schools capacity made it difficult to replicate the quality teaching in developing countries.

Similarly, the UNESCO Global Monitoring Report (2013/4) called for policies that include attracting and retaining the best teachers, improving teacher education, deploying teachers more fairly, and providing incentives in the form of better salaries and attractive career paths while realizing that finding the means to end the learning crisis requires a delicate juggling act on the part of policy-makers. Such a view of teacher change is clearly disempowering for teachers, especially experienced teachers, and furthermore is not educationally productive (Davis, 2009).

Pritchett, Beatty and Beatty (2012) utilised survey data from three South Asia and Africa countries which showed that many learners after years of formal schooling showed little progress on acquisition of the basic mathematics skills. They pointed to a disparity between curriculum requirement expectations and learners' effective learning. The authors developed a simulation model that illustrated deeper learning results when learners' achievement level was matched to teaching rather than to a curriculum that assumed that all learners learnt the same skills at the same time. The simulation model showed that if the curricular paced the level and material, teachers were expected to teach faster than actual learning by learners and this could generate enormous differences in cumulative learning in classroom. Moreover, Pritchett, Beatty and Beatty (2012) calibrated a baseline model to reproduce typical OECD grade 8 results using PISA and TIMSS assessments. They found out learning differences between less developed and OECD countries could be accounted for only

by an overly accelerated curriculum in less developed countries even if those countries had exactly the same potential learning in ECDE.

Research has been conducted on factors influencing poor academic achievement in primary school mathematics and numeracy activities. Popoola (2014) noted that learners' interest might not have been aroused and sustained during their pre-primary education experiences. In most cases, the learners were not exposed to numeracy skills through child-centred approaches that are widely acknowledged as the best ways learners can learn. ECDE teachers often introduced numeracy to the learners through demonstration activities rather than involving learners in real activities through various teaching approaches. Popoola (2014) recommended that learners needed to be assisted early enough (pre-school) in order for them to develop positive attitude towards mathematics activities because they would need to build their future academic attainments in Mathematics. This study investigated teacher Utilisation of learner-centred approaches in Mathematics activities in West Pokot County.

Hoppenbrouwer (2011) suggested that learning Mathematics for young learners in Sub Saharan African countries especially in South Africa is necessary. ECDE learners understanding of Mathematical concepts, which are related to number sense, starts in early childhood. Early childhood classrooms can be a foundation for Mathematical skills needed later in life (Linder, Powers-Costello, & Stegelin Hoppenbrouwer, 2011). When learners are around three years old, they start counting and applying numbers to substances (objects) (I have four teddy bears) and through actions (I have hopped four times).

Numeracy in young learners contains of different domains (Carmichael et al, 2009). The first one is knowledge of numbers. This contains learning numbers, the number

line and quantities (Bishop, 1991). Knowledge of numbers is something that young learners learn gradually during childhood. Dealing with the number line is fundamental for knowing numbers and learning to count (Koerhuis, 2010). In addition, other comparisons are important in this domain, such as recognizing smaller, bigger, previous and next. The second domain of numeracy is measuring, which includes comparing and ordering objects with different lengths, contours, volumes and weights (Koerhuis, 2010). The third domain is geometry, and focuses on the orientation, localization and establishing of shapes and figures. This includes comparing, recognizing, naming and sorting geometrical basic shapes, based on their characteristics (Koerhuis, 2010).

When a child is four or five years old, he/she starts to get a deeper understanding of counting through informal teaching by parents and siblings, and formally by teachers at ECDE (Madlela, (2014). This informal and formal teaching of counting is an example of cultural transmission (Blakemore & Frith, 2005). When learners start with primary school, they have different levels of numeracy that they gained at ECDE. Blevins-Knabe (2008) found significant differences between low income and middle-income ECDE learners in their number, counting, and comparing skills. These differences in numeracy abilities in young learners predict mathematical achievements during primary school. ECDE education can be an important mutual environment for the learning of numeracy. Blevins-Knabe found proof for the importance of ECDE education in numeracy development. They made cross-cultural comparisons of early counting and other arithmetic abilities, from which they concluded that early difference in counting and other numeracy skills could be explained due to the amount or types of numeracy experiences the learners had during their ECDE years.

ECDE education is important for the numeracy development of young learners (RoK, 2005; Kang'ethe et al, 2015). To improve the numeracy achievements of learners, their motivation and interest towards the subject is very important (Blevins-Knabe, 2008; Hoppenbrouwer, 2011). Learner's early experiences of numeracy and mathematics are important for the motivation towards learning it. If a child is successful in numeracy, it increases the chance that he or she likes it. This is likely affected by the positive feedback, which those learners receive from their teacher (Hoppenbrouwer, 2011). It is important to create numeracy and mathematical learning environments, where the teacher actively stimulates learner's positive attitudes and motivation towards it.

According to Bouchard et al, (2010) it is important that a teacher use enthusiastic praise towards a child's achievement. Praise enhances the development of positivity in a child about his or her own capacities (Blumberg & Everett, 2008). A child's idea about their self-efficacy and the positive feedback of teachers towards child's achievement, are significant factors for being successful in numeracy and mathematic (Bouchard et al, 2010).

Furthermore, it is important to make numeracy and mathematics relevant for learners and to integrate it in everyday classroom activities. Those activities have to be fun and interesting for the learners and must focus on increasing learner's knowledge and skills about numeracy (Bouchard, et al, 2010). French (2013) said that teachers teaching numeracy skills should bring in contexts that make sense to learners by constructing on their own immediate experiences of numeracy. French (2013) suggested that early childhood teachers needed to connect and build on the variety

and range of pupil's everyday experiences of numeracy in the home and early childhood settings.

Bouchard et al, (2010) observed that use of colouring and worksheets activities failed to gauge the level of development of an individual child or even to motivate them to develop their disposition for the use of numeracy skills daily which the use of the pupil's real world context could provide. French (2013) provided some examples of using the perspective of the pupil to develop mathematics activities through exposure to the concrete experience of dividing and naming things in quarters and halves (for instance, sharing fruit or play-dough) to support the understanding of fractions. Learners learn what is big and what is little when choosing what size spoon to eat with, or when hearing the story of Goldilocks and the three bears (Chatzipanteli et al, 2013). Later they will use centimetres, kilograms and degrees to measure and compare (French, 2013). Children need many of these experiences to ensure they understand critical competencies in schools.

Kumar (2014) informed there has been an emphasis on the utilisation of education technology media resources in facilitating learning at various levels of education. The use of educational technology even at ECDE level seems to be promising in making learning both effective and interesting (Lai, 2008; Howard & Blum, 2010). In fact, at this stage it seems to be more relevant as preschool children may find it most natural and interest (Kumar, 2014). In this situation, some educational technology media resources like TV and Radio are perceived as of possible help to children to their development in a more natural manner (MacHemer & Crawford, 2007). Such an approach can also be made use of in the pre-school activities.

Studies indicate that by doing more child-centred numeracy activities during the intervention, the learners will be more motivated towards numeracy learning (Linder, Powers-Costello & Stegelin, 2011). According to Dobbs et al, (2003), positive feedback of a teacher is important for numeracy learning in learners. In line with the above studies, it was proved that the learners in the ECDE had improved their numeracy skills after the use of the child-centred numeracy activities, which enhance the learner's motivation, and because of the increased attention to positive teacher-child interactions.

A study by Barbara (2007) of Southern Methodist University in United States of America provided initial evidence that learners who received personalized and interest based lessons were significantly better than learners in the control condition at writing algebraic expressions in both unit 6 and unit 10. That is, learners in the personalised form persisted to be better at producing algebraic expressions long after the experimental manipulation had been removed. From the above review, it has been seen that there are various child-centred approaches to be used by teachers during mathematic activities instruction. This research focused on the degree to which the child-centred approaches were used in public ECDE classrooms in West Pokot County.

2.3.2 Utilisation of Child-Centred Approaches in Teaching and Learning of Language Activities in ECDE

Early childhood teachers play a critical role in early language development (Mmela, 2010; Moraa, 2014; Davidson, Walters & Elizabeth, 2015). As pre-school teachers gain knowledge on how language develops in young children, they can become more equipped to facilitate its development in class (Davidson, Walters & Elizabeth, 2015).

Under the interactions view of learning, language is developed in the child through interactions with others in school including their teachers (Madlela, 2014) stressed that the importance of social interactions with competent language users enhances the child's Zone of Proximal Development (ZPD) which is critical for learners' cognitive development. McLeod (2007) said that ZPD is difference between what learners can gain independently and what a child can realise with guidance and encouragement from a teacher (a skilled partner). Within this zone of instruction and learning, rich verbal exchanges accompanied by strengthening environmental signs are known to improve language development (Pence & Justice, 2008; Bouchard et al, 2010).

Constructivists define learning as the construction of meaning related to what the learner already knows, in order to build and integrate new ideas (Davidson, Walters & Elizabeth, 2015). From this perspective, learning and development are both social and cognitive processes (Bouchard et al, 2010). Learners are actively involved and participate in tasks and they are led to discover meaning through activities that simultaneously extend their facility with language as well as their understanding of the world (Mmela, 2010). Constructivist-based second language acquisition theories are based on communicative approaches rather than grammar-based approaches (Piaget, 1952). This shows that teachers have to develop constructivist teaching approaches in their classroom for learners to acquire language competencies.

Pragmatism regards teacher as a helper, guide and philosopher. The chief function of pragmatic teacher is to suggest problems to his pupils and to stimulate them to find by themselves, the solutions, which will work (McDermid, 2015). The teacher must provide opportunities for the natural development of innate qualities of children (Metto & Makewa, 2014). His/her main task is to suggest problems to his pupils and

to guide them to find out solution (Maheshwari, 2013; Wanjiku, 2014). Pragmatism regards teacher as a helper, guide and philosopher. The chief function of pragmatic teacher is to suggest problems to his pupils and to stimulate them to find by themselves, the solutions, which will work (Wanjiku, 2014; McDermid, 2015).

The teacher must provide opportunities for the natural development of innate qualities of children. His/her main task is to suggest problems to his pupils and to guide them to find out solution. The whole emphasis of method of teaching in pragmatism is on child, not the book, or the teacher or the subject. The dominant interest of the child is to do and to make (McDermid, 2015). The method should be flexible and dynamic. It must be adaptable and modifiable to suit the nature of the subject matter and potentiality of the students. The pragmatist's curriculum provides for creative and purposeful activities in the teaching- learning process. Pragmatists regard school is as miniature of society where child gets real experiences to act and behave according to his interests, aptitudes and capacities (Wanjiku, 2014).

In Finland, Hyvonena Kronqvist, Jarvela, Maatta, Mykkanen and Kurki (2014) argued that children need support to strengthen their efficacious agency, which, in turn, increases their wellbeing and inherent learning capabilities. The efficacious agency embraces the idea of children's active participation in learning (McDermid, 2015). Hyvonena et al, (2014) argue that efficacious agency implicitly includes the idea of children participating in various activities which allow them to have choices and to express opinions. Focusing on children's participation, agency, and thoughts is a desirable re-search initiative, but it is challenging to achieve. Hyvonena et al, (2014) found out those interactive and child-centred methods in authentic classroom

environment can produce deeper knowledge about children's efficacious agency in learning contexts.

The ultimate goal of ECDE is to create skilful readers and writers (Mmela, 2010). In second language classrooms, reading and writing provide a wide opportunity in which learners can interact with the target language, hence providing for active engagement. Reading and writing also provide learners with opportunities to get involved with language that is somewhat more mature than what they currently use (Farris, 2001; Ndani & Kimani, 2011). It is believed that learners learn more words quickly and incidentally through repeated exposure during reading and writing than through direct instruction (Nsamenang, 2004). Creative writing naturally extends the concepts underlying the new words that ultimately become a permanent part of reading and writing (Mmela, 2010).

Mmela (2010) reported a synthesis of research on reading and writing relationships, finding that reading has influence on writing and vice versa; hence, they concluded that the two are cyclical and equally facilitative units that support one another. Flood et al, (1987) found that better writers tended to be better readers; better writers tended to read more than poor writers, and better writers tended to produce more syntactically mature writing than poor readers. Both reading and writing are manifestations of cognitive and linguistic development (Mmela, 2010). Readers and writers create meaning by building the relationship between the text and what they know and believe (Pence & Justice, 2008). Schema theory holds that prior knowledge of the planet enables students to put up meaning from print media resources by reconstructing the author's message and connecting with schemata present in memory. Writers, on the other hand, compose and construct meaningful information

from schemata and other information into communicative ideas through text (Mmela, 2010).

Learners learn to read and write by engaging in reading and writing. Through wide reading experiences, most learners become good readers in the same way they master oral language (Mmela, 2010). Learning to read and write should come as naturally as language learning (Sarah, 2013). Learners write more and think at deeper levels when they are engaged in low-stakes writing assignments, because the focus is on exploration of ideas rather than clarity of presentation. It allows learners to connect what they know to what they are studying, and move beyond low-level recall level of information (Towett et al, 2013). Low-stakes writing also allows learners to interact personally with information and ideas without the demand of creating well-polished finished work.

Examples of low stake writing are informal writings such as journals, and other non-graded and non-threatening writing activities, including unfinished writings (Mmela, 2010). Allowing learners to choose what they want to read or write about boosts their interest and allows them to construct new knowledge upon what they already know (Wangui, 2011; Wiliam et al, 2011). Constructing new knowledge upon what the learner already knows is a constructivist-based philosophy that is founded on the new science of learning. When the learners construct knowledge from their previous knowledge, they involved in an active learning process and this is referred to as learner-centred learning (Mmela, 2010).

Therefore, reading and writing are closely related cognitive activities that are best taught using active or learner-centred processes (Zigler, 2008; Mmela, 2010). Learners should participate actively in language literacy skills of reading and writing

(Popoola, 2014). Reading and writing are vehicles for learning English as a second language. For this reason, active engagement is an essential component of learner-centered, integrated approaches to literacy learning. Teachers are therefore, challenged to engage learners actively as they attempt to learn English (Mmela, 2010).

Learning through play is a group activity that involves many learners at ago both males and females (Yadav, 2007). There have been studies on the influence of gender on learners' performances. Babalola and Oyinloye (2012) in a study titled gender distinctions found that male and female could perform well in language tasks not on the ground of gender but on the pedestal of individual ability. There are a variety of games which can be used by both teachers and learners to emphasise certain issues such as guessing games, memory games, putting things in order, comparing and finding differences, word games, simulations and icebreakers (Schollar, 2009; Ronkko & Aerila, 2015). All these types of games can be used to provide motivation in language learning and teaching. They can either be used collectively or individually depending on the aspect of language being taught (Matsau, 2007).

Kumar (2014) informs that conveying ideas skilfully to children is another important task for the teacher of preschool and learners. Educational audio-visual resources in various forms are of immerse help to the teacher in this task (Robert, 2014). A chart or a picture or even an easy sketch on the blackboard can provide the child an entirely new experience in understanding a concept more than words. Texts have different connotations to different people but a picture or a drawing can to a much greater extent convey what we have in our mind (Madlela, 2014; Murunga, 2015). Ideas that often seem quite simple to adults (teachers included) may not be so simple and clear

to the child. However, if the children could see what teachers and other adults are talking about, it helps them to understand what teachers exactly mean in our words: seeing believes.

Moreover, Morrison et al, (2010) added to this observation that learning is effective and occurs in activities involving visualisation, noting that such activities include watching movies, interpreting images, visuals, puzzles or games. Further, bodily kinaesthetic intelligence (body wise) is employed in games which require learners to use their bodies to express emotions and to play games (Matsau, 2007). The use of these intelligences in a learner-centred approach is achieved by the use of drama and role-play, games, songs and dances. Various intelligences are present when using songs, music and dance. Musical and rhythmic intelligence (music wise) connects well here as this can be observed in songs, music, poems and dances and helps in the understanding and communicating of ideas and meanings (Matsau, 2007). The different tones, tunes, sounds from the environment, human voice and musical instruments can also promote this intelligence. Also connected with music and songs is bodily kinaesthetic intelligence (body wise), when learners use their bodies to express emotions in music and dances, and to play games (Mmela, 2010).

Ahmad and Aziz (2009) concurred that learners in most cases have poor grasp of a language and part of the problem lies with the conventional teaching methods employed by their teachers in classroom. A research carried out by Madlela (2014) revealed that Kenyan school leavers continued to perform poorly due to poor teaching methods used by their teachers in schools. This is because (Morrison et al, 2010) most teachers developed a teaching style that was based on their beliefs about what constituted good teaching, their abilities, personal preferences and names of their

particular subjects. This was done by teachers in disregard of their learners instructional needs.

Pre-school children early literacy, development and readiness are recognized to be important in preparing learners to accomplish their academic success (Patson & Warren, 2014). The significance of ECDE in learning and development of the child establishes a need to evaluate the curriculum implemented (Kang'ethe et al, 2014). ECDE commonly implement different teaching instructions and provide different materials to be used by teachers without gauging whether the utilisation of these methods will address the individual needs of learners (Wangui, 2012; Wanjiku, 2014). The inability of ECDE learners to acquire the necessary literacy skills in reading will prevent them to achieve academic success in primary and secondary schools. This is brought about by inappropriate teaching methods in the ECDE classrooms (Mmela, 2010) employed by their teachers.

The learner-centred integrated literacy approach is a constructivism-based idea that emphasizes active learning (Mmela, 2010). Bransford Further indicated that active learning is in keeping with the principles of language learning indicating that language learning is an on-going active process. Additionally, integrated literacy instruction has been shown to have positive influences in learning a language in a classroom (Mmela, 2010; Oyedeji, 2011). These approaches exceed traditional teacher-centred approaches with regard to effective language learning (Oluoch, 2007). Traditional approaches puts a pupil in a more passive role and unreceptive language teaching is fruitless e in terms of the learners' ability to make productive use of the new language in speech and writing (Ogott, Indoshi & Okwara, 2010).

Mmela (2010) indicated that the learner-centred integrated literacy approaches is an idea derived from constructivist philosophy of teaching. English is an important language in Malawi because it is the official language. For that reason learners are motivated to learn it as a second language (Matsau, 2007). However, their achievement in English was critically low. According to Ministry of Education and UNICEF (2012) teachers' complete reliance on traditional teacher-centred approaches was believed to be one of the major causes of school learners' inability to acquire English as a second language for their literacy development in Malawi. The assumption was that, improving teacher teaching practices through introducing constructivists based and learner-centred which were believed to be more effective for second language learning would show how teachers learn and eventually improve teacher education practices and therefore English teaching in their classes.

Knowledge is gained by experiences and experiments, conducted by the learner himself (Meque et al, 2009; Mashford-Scott & Church, 2011). One exercise leads to another and so on and the area of knowledge is widened by the child. The process of reconstruction of experience goes on and leads to adjustment and development of personality (McLeod, 2007). For pragmatists educational process has no end beyond itself (McDermid, 2015). In addition to the individual it is continuous reorganizing restructuring and integrating the experience and activities of the race. Thus education will be useful if it brings about the growth and development of the individual as well as the society in which he lives (Linder et al, 2011).

Education is meant for the child and child is not meant for education and child is not empty bottle to be filled up by outside knowledge (UNESCO, 2015). Each child is born with inherent capacities, tendencies and aptitudes which are drawn out and

developed by education (Kumar, 2014). One of the aims of education is to develop all the inherent capacities of the child to the fullest extent (Wanjiku, 2014). An early childhood teacher will be challenged to find new experiences to share with children (Lai, 2008). Guide children, do not lead them, and move in a direction that interests the child. As a guide, allow the child to choose their learning and playing style while making safety your number one concern (Wanjiku, 2014). Give up the notion that a teacher knows

Early childhood teachers' support learning by providing activities and materials that children find engaging (RoK, 2012). By facilitating learning, supplying a developmentally appropriate environment, interesting materials, and adequate time to explore, play, and interact, children find learning easy and fun (Fink, 2004; Kember & David, 2009). To nurture is to nourish. Nurturing a child encompasses all aspects of development: social, emotional, cognitive, and physical. In every interaction, a teacher should nurture appropriate growth and development (K.I.E, 2008).

Teachers must also take care to listen to a child including interpreting words and actions (K.I.E, 2008). Listening carefully helps teachers determine a child's needs and aids in furthering the child's development. Teachers communicate with many people throughout the day: parents, children, support staff, the general public, and administrators. Early childhood teachers must be prepared to communicate with all of these people. You should feel comfortable opening up, asking questions, seeking advice, and sharing your experiences. Paperwork, lesson planning, preparing materials and the environment, and negotiating require teachers to have strong management skills (Wanjiku, 2014).

Managing a classroom requires organizational skills, attention to detail, and commitment (INTO, 2009). There are many balls in the air and it is your job is to keep them up and moving (Hoppenbrouwer, 2011). Teaching is full of many responsibilities, roles, and challenges (Wangui, 2011). Like most worthwhile endeavours, it brings both challenges and rewards. Be flexible and you will more readily enjoy the rewards of teaching young children. From the above review of child-centred approaches, this study determined whether they were used in classroom learning.

2.3.3 Utilisation of Child-Centred Approaches in Teaching and Learning Science Activities in ECDE

Science is a body of knowledge that includes observation, measurements and calculations in an attempt to understand the natural world and solve puzzling questions and problems in the society (K.I.E, 2008; Buyuktaskapu, 2011). In ECDE, learners must be given strong foundation in science through various activities to develop good and sound scientific principles that would help them pursue science-oriented courses like engineering and technology. In this case, they are able to appreciate nature through scientific aspects (Mutiso, 2014).

The teacher's role is critical to children's science learning, and it is a complex one that is informed by her knowledge of children, of teaching and learning, and of pedagogical science knowledge (Githinji & Kanga, 2011). Children's scientific inquiry is guided by the teacher's explicit understanding of the important underlying science concepts of the focus she has chosen (Worth, 2010). In order for learners to be successful in ECDE science, proper strategies should be applied to give the maximum

benefits of scientific skills, activities and ideas (RoK, 2008). This would make learners prepare to become future scientist (Mutiso, 2014).

Learners must investigate and do analysis of what they have done to gain scientific knowledge and skills. This can be achieved if ECDE teachers use reflective teaching approach. Child-centred research suggests that learners in classrooms utilizing a more contextualized approach to literacy development tend to view themselves as successful readers and writers and to maintain their initial interest in reading and writing activities (Rotumoi & Too, 2012; Andiema, Kemboi & M'mbone, 2013). Learners in classrooms that integrate literacy activities in child-centred interest areas appear to recognize that literacy is a way to communicate information (Madlela, 2014).

Meaningful science activities, which are relevant to children's daily lives, allow children to make connections between what they already know and what they are learning (Kangori, 2014). Sense-making discussions promote children's awareness of the learning and concept development and facilitate the restructuring of alternative ideas into scientific mental models (Anne & Roa, 2013). As teachers work with children to develop their inquiry skills, the instructional strategies should move toward more open inquiry where children are posing their own questions and designing their own investigations (Banchi & Bell, 2008).

Nasibi (2005) suggested that science activity gives the learner an opportunity to think. ECDE learners should therefore be allowed to perform activities and draw conclusions to come up with their own scientific ideas. K.I.E. (2008) in their guideline to ECDE teachers indicate that some of the many process associated with science and inquiry include; observing, inferring, hypothesizing, predicting,

measuring and experimentation. Critical thinking as predicting and inferring require learners to apply new knowledge to new situations (RoK, 2008). By doing experiment, scientific ideas can be proved. Similarly, some false beliefs that learners hold as true are eliminated (Davis, 2009). Another dimension of science is science and its interaction with society and technology.

Advancement in technology has made advancement in science (MacHemer & Crawford, 2007). Similarly, advancement in science has made advancement in technology. As problem arises in the society, technology comes in to solve this issue (Mutiso, 2014). K.I.E. (2008) notes that ECDE science curriculum consists of three dimensions: body of knowledge generated by science; process and procedures used to develop the body of knowledge and attitude and ideas which guide the scientists in their work. Therefore, acquisition of any knowledge must involve process to avoid memorization of information that is easily forgotten. Hence, process of acquiring knowledge is complimentary for better understanding of concept and utilisation of information.

The children must be actively involved to carry out investigations, develop curiosity and powers of observation and inquiry, explore basic questions and suggests solutions (Lai, 2008; Macfarlane & Cartmel, 2008). The selection of and access to materials are critical to science (Linder et al, 2011). It is through the materials that children confront and manipulate the phenomenon in question (Majanga, 2011). To the extent possible, the instructional materials must be open ended, transparent, and selected because they allow children to focus on important aspects of the phenomenon (Worth, 2010). They must manipulate a variety of materials in search for patterns and relationships while looking for solutions to problems (Majanga, 2011). The teacher

must prepare appropriate materials for learning activities, motivate children, discuss and coordinate activities to achieve desired objectives. He or she should assess the activities and suggest solutions to problems. The teacher must make an effort to teach children how to learn so that they can work as independently as possible (Kangori, 2014).

According to Kangori (2014), children use their sense to explore the environment, manipulate objects and discover the nature of things, how they work and relate. They discover how things smell, taste, feel and how they look like. Children break things up and construct others to see what will happen (Madsen & Venka, 2012). They experiment with different things making discoveries and this increases their knowledge and concepts. Children learn by doing (Mukachi, 2006). They learn by hands on experiences with real materials and meaningful activities (Minner, 2010). Learning is an active process which involves the whole child. Children learn through practice, observation, imitation, exploration and problem solving (Kangori, 2014). When they explore and experiment, they discover new things and ways of doing things. As they engage in different activities they develop strategies or different ways of acquiring information and solving problems. This is referred to as learning how to learn.

During science teaching, teachers should ask questions that activate students' prior knowledge, focus their attention, and invite them to make predictions, before, during, and after reading the expository text (Mweru, 2012). These types of questions promote children's comprehension of the text and improve science learning (Kinniburgh & Shaw, 2009; Obuchere et al, 2014). The structure of the text can affect science learning. The main ideas in the text should be supported with several

examples, and these examples serve as cognitive support for the children. Examples should be highly relevant to the main idea so that children can establish connections between the text content and their own personal experiences (Bouchard et al, 2010).

Diagrams also support science learning. Effective, clear diagrams that represent causal relationships in the text support children's comprehension of causal mechanisms (McCrudden, Schraw & Lehman, 2009; Ogott et al, 2010). Illustrations and images in textbooks can be effectively integrated into inquiry-based instruction. Learning by inquiry involves, among other skills, observation in nature over time. However, teachers are presented with several challenges when they try to teach science concepts through actual observations in nature. For example, some phenomena are not observable during school hours.

Weather conditions and tall buildings or trees can make the observations of the sky difficult and frustrating, especially for young children (Kangori, 2014). Also, observations in nature can be time consuming for classroom teachers who want to teach science more effectively through an inquiry approach. Images can be used to allow children to make observations and inferences (Popoola, 2010; Pollanen, 2011). Teachers also can have children compare observations in nature to illustrations and images in books. While many science educators might argue that observing phenomena in nature is important, the use of illustrations and images in the classroom offers a practical and effective way to introduce and teach science concepts with young children (Trundle & Sackes, 2008).

Research has shown that cooperative learning in small groups enhanced preschooler's mathematics problem-solving abilities (Sarah, 2013). In this approach, teachers guide children as they work together by providing materials and explaining when the

children are in need of assistance. Teaching approaches should therefore be participatory to ensure that children acquire science process skills, enjoy learning and apply what is learnt to everyday life. This study determined whether the approaches to teaching were participatory.

Retention of knowledge that is actively acquired through activities is much higher than that learnt passively (Githinji & Kanga, 2011; Kang'ethe et al, 2015). Science is learnt through different approaches (K.I.E, 2008). Participatory approaches suitable in science learning include demonstration, practical activities, guided discussion, projects and field trips (K.I.E, 2008). Demonstration – it is important to have clear objectives (Sonia, 2006). Children should always be involved. Ensure that they are involved through questions, making observations, recording results and discussing conclusions (K.I.E., 2008). For preschool teachers to facilitate learning science through play, understanding of both science and play are important. Medlela (2014) states that integration of play and learning creates self-motivation, responsibility, and great concentration. According to Medlela children are likely to learn the most and enjoy the most when they are engaged as active participants, not passive recipients. Playful learning environment can be serious, creative, and imaginative as well as being fun and playful. The researcher sought to relate teaching of science through play with the implementation of science in ECDE.

2.3.4 Utilisation of Child-Centred Approaches in Teaching and Learning of Creative Activities in ECDE

Kember and David (2009) indicated that in child-centred learning approach, learners in school are involved in problem solution and learning by doing that in turn leads to creativity and innovation on the side of learners. Child-centred teaching methods

expose learners to different mathematical and scientific problems to solve individually or as a group (Wilson, 2015). Kember and David (2009) went on to say that if learners are exposed to problem solution scenarios at a tender age, they grow up to be adults who are creative and good in solving problems in their communities and work places. However, it was not clear whether teachers are using this approach in ECDE classrooms.

Irish National Teachers Organisation (2009) reported that since earliest times when humans drew images on the walls of the caves, the arts have been the medium through which recording of human experience has been done to make sense of the world. The arts give expression to people understanding, imagination and creativity (Zigler, 2008; Barton & Wolery, 2008). As the world people living in become smaller, faster and more competitive, these qualities are increasingly important. The arts that are used in creative activities are integral part of a complete, successful and high-quality primary and secondary education. According to INTO (2009), the use of arts by teachers in classrooms enhances their personal, intellectual and social development.

A comprehensive arts education provides a rich and engaging curriculum that develops learners' abilities to think, understand and reason the world and its different cultures (K.I.E, 2008). It offers learners opportunities to respond, perform, and create in the arts. The use of arts in classroom instils learners' habits of mind that will last for lifetime (RoK, 2012). These habits include: ability to solve problems, analytical skills, perseverance and a drive for excellence (Dignath et al, 2008). The creative skills learners develop through the arts lead them towards new experiences, ideas and challenges, as well as offering personal satisfaction to them. This is the intrinsic value

of the arts and it should not be underestimated (Irish National Teachers' Organisation, 2009).

Schools and society must develop ECDE learners to become happy, well-adjusted citizens, rather than learners who can just pass a test and get through school (DEEWR, 2009; Eslami, 2010). Schools need to ensure that learners can think skilfully, creatively, and outside the box (RoK, 2012). The artistry activities are a significant part of ensuring that every pupil can achieve his or her potential and contribute fully to our society (Irish National Teachers' Organisation, 2009). According to UNESCO (2015), the encouragement of creativity to learners from early age is one of the guarantees of growth in a healthy environment of mutual respect and self-esteem which are important components for building a culture of peace. Elim (2010) indicated that creativity in children is a state of mind in which all pupil intelligences are working together. In another view, it is also the capacity to solve problems and fashion products and to raise new questions (Irish National Teachers' Organisation, 2009).

Creativity can also be understood as having the power by a person to express him/herself in their own way (Jemma & Bull, 2008; Karpinnen, 2008). Learners are naturally creative; they see the world through new eyes, fresh and then use what they see in original ways one of the most rewarding aspects of working with learners is the chance to watch them create (Marsden & Weston, 2007). Every child is born with a creative capacity, but this ability may be subdued if precaution is not taken to nurture learners and stimulate their creativity (Madlela, 2014; Murunga, 2015).

Pre-school children are usually purely inquisitive by wondering about people and world (Maheshwari, 2013). Even before they enter ECDE, they already have a variety

of learning skills acquired through searching, inquiring, questioning, experimenting, manipulating and playing. Pre-school children require opportunities for a closer look; they need time for the creative encounter in school. This research determined whether the mentioned child-centred approaches were utilised by teachers in ECDE classrooms in West Pokot County.

Creative learning is an innate human process that occurs when children become excited and curious (Mmela, 2010; Minner, 2010; Nyangeri, 2014). Learners prefer to learn in creative ways rather than just remembering information provided by parents or teachers (Nsamenang, 2004; Ndirangu, 2004). The learners also learn better and sometimes faster. Therefore, creativity beyond art, class and school projects is important for ECDE children (Irish National Teachers' Organisation, 2009).

At its best, creativity in the classroom is about how a teacher captivates learners and inspires them to gain discovering to new things (Wanjiku, 2014). Those teachers who practise the art of developing creativity to their learners are usually focused on creating a classroom culture that blossom on creativity (Wangui, 2011). The teachers build a collection of tactics designed to ignite new ideas and bring out a spirit of creativity in learners and they adapt and create ideas for their own curriculum needs. What is needed is teaching that is innovative (Obuchere et al, 2014; Ngugu, 2015). Learners need to experience the unpredictable and the uncertain. Learners need lessons that produce surprises. Fisher (2002) argued that creative learners require creative teachers who in most instances provide both order and adventure and those teachers are willing to do unforeseen and take risks. Creativity is the act of turning new and imaginative ideas into reality.

Naiman cited in INTO (2009) indicated that creativity involves two processes: thinking and thereafter producing. Naiman promoted the use of arts based learning to develop innovation, creativity and collaborative leadership in institutions. A creative curriculum will offer learners plenty of opportunities for creative activities. Such curriculum will call for independent learning, self-initiated projects, original work, and experimentation. Using instructional resources that provide progressive experiences, procedures that permit one thing to lead to another and activities that recognise and reward creative thinking will make it easier for pre-schoolteachers to provide opportunities for creative learning in classroom (Irish National Teachers' Organisation, 2009). Learners have a seemingly endless supply of creative energy. It shows up in their quirky impromptu songs and rhymes during imaginative play and in their natural ability to make something out of anything.

Research on creativity points to standard four (fourth grade) slumps across several cultures around the world cultures (Policy View Issue, 2008). When learners begin ECDE level of learning, their level of creativity is evident and flourishing but by the time they enter primary school, they have become more compliant, less playful and less likely to take risks than when they were at pre-school (Wawire, 2006). Pre-school learners need to be given the opportunity to develop their own creativity to the fullest not only for the benefit of their own future but for their society (Irish National Teachers' Organisation, 2009; Githinji & Kanga, 2011).

According to Education Policy in Finland, learners should be encouraged to organise themselves and be creative when implementing their designs of craft products. Craft instructional teaching and learning need to include theme from learners' worldview and their experiences (Pollanen, 2011). The craft design and production processes

examined in Ronkko and Aerilla (2015) was based on the concept of holistic craft that allowed learners to express themselves by becoming innovative during the problem-solving process. In Finland, one of the countries recognised globally for providing quality education to ECDE learners. The teaching approach is moving from teacher-orientated to child-centred learning, where learners are treated as active participants in the process of learning and can realise their own ideas while achieving curriculum goals (Ronkko & Aerila, 2015). This new core curriculum aims to increase learners' access to education skills and learning techniques while they are in school.

Ronkko and Aerila (2015) presented an experiential learning model of combining literature education, craft education and ethic-moral education. In Finland, ECDE classes, David Kolb's model of experiential learning is regularly used. The teaching experiment is implemented as a craft process supported with first-grader learner's literature and activities based on a story. Ronkko and Aerila (2015) indicated that ECDE learners derive benefit from literature and activities during craft making process. In addition, referencing literature enabled the teacher to combine the craft process with multiple learning targets, fostering both ethical and content skills.

Teachers need also to have capability to control and direct the pupil's process of holistic craft making and be able to offer creative solutions to support reflection and problem solving (Starko, 2010). Starko claimed that teachers teaching craft faced various challenges during holistic craft process. These challenges were: how to encourage learners to be creative and present their own ideas while still meeting lesson objectives and how to direct the teaching process while each pupil is producing a different craft product. Karppinen (2008) suggested that craft teaching still emphasised learning of traditional techniques and the making of products based on

readymade models rather than learners develop them on their own as required in child-centred learning. Pollanen (2011) argued that it was important to invent new ways to support teachers' efforts to move their teaching from that appropriate to ordinary crafts to a form aligned with holistic crafts.

Another child-centred strategy being regularly used in teaching of creative activities is experiential learning (Li, 2013). This is a sense making process which involves active engagement between the inner world of the child and outside world environment. This is a teaching method that supports all forms of teaching and learning because it represents the transformation of new and significant experiences and incorporates them into a broader conceptual model (Li, 2013). Beard and Wilson (2006) informed that during experiential learning, the insights acquired through the conscious/unconscious internalisation of personal/observed experiences usually builds upon the subject's past experience and knowledge. This method enables learners through an active sense making process, to engage with inner world and outside environment.

Experiential learning occurs when learners are required to engage in creativity and problem solving activities (Hyvonena et al, 2014). In this situation, classroom learning takes place by reflecting on experiences that have occurred in either fictional or social reality. Hyyonena et al, (2014) indicated that in order to assist children learn from experience, a combination of: sculpting, role-play, activities and drama, arts and crafts, stories and similes is required. The methods encourage learners to express thoughts and ideas on their own experiences. The extent to which the above mentioned methods are perceived as real can have momentous influence on learning experience in classroom. If learners cannot experience the reality, they can experience

something that is perceived as real in a physical or in emotional sense (Beard & Wilson, 2006).

Activity based approaches using storytelling, art among others can be perceived as simulated reality (Crumly, 2014). The degree to which the classroom learning environment is real, natural or simulated affects the learning capability of a child (Beard & Wilson, 2006). These techniques are tools invented to promote understanding during pupil cognitive development. The teaching methods can be used to generate ideas, establish value and develop morality for learners at an early age this is because the stories and arts are usually embedded in our cultural practices. The manipulation of reality can help children to analyse and change their opinion of themselves and can alter their levels of self-esteem. Stories solidify children memories and each one of them looks for occasion to tell stories to their friends.

Pre-school teacher's activities guide (K.I.E, 2008) suggest that performance may be examined through questioning, observing children during dramatization and play, listening to children as they discuss and play (Wanjiku, 2014; Kang'ethe et al, 2015). The teacher can observe the children to see how well they participate and do in various activities. Direct observation is done as individual children carry out various activities (RoK, 2015). This is one of the most reliable methods of obtaining information about children's performance. It enables a teacher to determine how willing, responsible, motivated and co-operative as well as the extent to which scientific skills such as manipulation and simple experiments have or have not been achieved (Kangori, 2014).

Another method is oral questioning; this is a method where the teacher asks oral questions whose response helps the teacher to determine whether that particular child

has understood the concept being taught at every stage (French, 2013). Oral questioning also helps a teacher to assess his or her effectiveness in teaching. Oral tests or interviews are useful. A teacher prepares questions which are put to the children one by one (Ensor et al, 2009). Through this the teacher is able to determine a child's level of achievement. Practical work is a method in which children are given tasks or problems to solve. The teacher marks the work as children perform an experiment, or the finished product which could be an apparatus, a drawing, a model, a display or results obtained. Written tests are the most commonly used methods of assessment (Kangori, 2014). This study conducted observation on the learners' participation in creative activities in ECDE in West Pokot County.

2.4 Related Studies

2.4.1 Child Centered Approaches and Mathematics Activities

Balfanz and Byrnes' (2006) in their research weighted against the academic performance of learners in three schools in the USA that adopted to implement a wide-ranging set of instructional, educators support, and school environment reforms (entrenched in Talent Development Middle Schools [TDMS] reform framework). In their comparisons, they had significantly greater numbers of learners close their mathematics academic achievement gaps than did other 23 middle schools in the area (district) also serving high-poverty and high-minority learners' bodies. Further, they demonstrated that differences in catching-up were also a function of the home-rooms between these schools indicating the importance function of the teacher within these comprehensive reform schools. Learners classroom attendance patterns was also found to be an important factor indicating learners who consistently attended such classes tended to show greater gains than other learners. Also effective was the high expectation of learners' behaviour in those classes.

Guarino, Dieterle, Bargagliotti and Manson (2013) conducted a longitudinal study that used a sample of 22,000 learners in USA and examined the influence of certain teachers' characteristics and practices (including the use of resources) in kindergarten and grade 1. The authors found that the use of resources was effective in kindergarten but not in grade 1. Even though statistical significance was obtained for the lower grade, the influence of resources on learning was small. The authors posited the hypothesis that the level of development of children may contribute to such findings. More problem solving and verbal pedagogies were found to be more effective in to grade 1 pupil. Hence, it seems that students may outgrow the need to depend on resources to develop their understanding and skills in numeracy.

Jemma and Bull (2008) study in Aberdeen, Scotland sought to establish the importance of linear number board play on the development of mathematical skills utilising a sample of ten ECDE learners. They utilised practical experimentation as a method of collecting data. They established that linear number board play needed teacher's guidance in the teaching and learning process for it to sound relevant and effective to ECDE learners during mathematical activities. On the other hand, this study examined the relationship between teachers use of play activities in ECDE curriculum and learners acquisition of mathematical competency. The study employed questionnaires, interviews, observation schedule as methods of data collection.

Popoola (2014) investigated the influence of play-way method on the numeracy skills of ECDE learners in Ekiti State, Nigeria. The population of the study was all the early basic education schools in Ekiti State where learners are given pre-primary education specifically, learners between ages 4-5 years. The sample was made up of 120 learners split into two groups of 60. The research design of the study was quasi-

experimental. The learners were interacted with for 6 weeks with the goals of exposing them to numerical literacy. An interview conducted by the researcher revealed that some teachers said that demonstration approach was convenient because they could not provide enough materials that will go round the learners in class. The result also showed that there was significant difference in the performance of learners in favour of those in guided playgroup.

Oyinloye and Popoola (2013) in a study of activation of prior knowledge of learners established that that pre-school pupil's active participation in play activities was essentials if learners were to be actively involved in learning of Math and English language. This shows that learning of Math activities requires also learners to be proficient with English language in Nigeria, the same as Kenya. Barnett (2010) in his study of early childhood education found that ECDE education helped to activate learners' cognitive abilities in pre-school. The teacher centred method also enhanced pre-school children academic achievements; it decreased the level of failure and built in learners' good classroom behaviour. All these were found to be necessary in the promotion of numeracy skills to ECDE children.

Odinko and Williams (2006) study sought to investigate how preschool teachers and their learners interact during learning in mathematics lessons in Nigeria. The study sample size consisted of 2859 learners from 72 pre-primary classrooms (who were selected through stratified random sampling to ensure adequate representation of private, public, urban and rural schools). The result revealed that the major language of instruction was English language rather than mother tongue; the utilisation of lesson time and direction of interaction tended to be sensitive to language of classroom instruction; teacher-initiated interactions and whole class activities were

associated more with the use of English as language of instruction while pupil-initiated interactions and individual/small group activities are associated more with use of language of the learners' immediate community in instructional delivery; and the direction of communication was mainly from the teacher to the whole class.

Davis (2009) examined research on the extent to which early mathematics may affect pupil's potential math skills. ECDE age learners who experience an environment in which teachers and other people challenge and scaffold profound mathematical concepts tend to extend a foundation that increases their potential for later mathematical achievements. Hoppenbrouwer (2011) observed teacher-child interaction during the intervention, and to test differences in learner's cognitive and numeracy skills after the intervention. The study included 56 learners (Mean age = 44.18 months, *SD* age = 5.53) and 9 teachers from three ECDE in Dennilton, South Africa. The study stressed the importance of child-centred education in mathematics learning. They said the method had a positive effect on the numeracy skills of learners. This study determined the extent to which child-centred teaching method affected pre-school learners' acquisition of mathematics skills.

Meque, Nauria and Edelmira (2009) study was based on the relevance of symbolic play activity towards learners' improvement of mathematical thinking. The study was carried out with a group of 26 learners who were aged five to six in public urban ECDE centres. They found out that symbolic play activity were important and relevant to teaching of most of mathematical activities as they simplified explanation and understanding of complicated mathematical problems that learners faced. The current study is different from Meque and others (2009) study because it examined the relevance play incorporated during CCA approach in ECDE curriculum other than

studying a specific type of play activity used to teach a specific subject like, symbolic type of play used to teach Mathematical thinking in Meque and others (2009) study. This study also covered ECDE and did not study on children of a specific age group but sought teachers and head teachers' opinion only.

According to Kember and David (2009), the learner centred teaching methods need a lot of resources in order for them to be a success, because in order for learners to be fully involved during lessons they need to use their own tools and apparatus in Science laboratories. Giving learners all required apparatus, materials and chemicals during a Natural Science lesson enables them to manipulate these items and gain a deeper insight into scientific experiments. With respect to the proper use of the resources, in the South African context, Venkat and Askew (2012) suggested the need for improvement to access to resources in some urban settings schools. However, they pointed the need for in-service teacher development in the use of structured resources (resources inlaid with aspects of mathematical structures like 1 - 20 bead strings structured in 5s or 1 - 100 abacus structured in 10s). Their research evidence pointed to dangers of structured resources being used in unstructured ways in classrooms (like through unit counting strategies) by teachers who have not had access to use of these resources in their own learning and prior training and teaching experiences. This showed that some teachers had inadequate experience to use mathematical shapes that promoted child-centred approach.

Ngware, Oketch, Mutisya and Abuja (2009) investigated differences between top and bottom performing primary schools in Kenya. They utilised the construct of opportunity to learn and teacher content knowledge as their framework. Their research found that teachers in bottom-ranked schools made some difference in the

performance of their learners in mathematics activities and also found little teacher influence in top-ranking schools. Teachers who used more interactive teaching techniques in classroom learning assisted learners towards higher academic achievement. The Oketch et al, (2009) concluded that in low-performing schools, teachers required more pedagogical skills-upgrading with a view to enabling them shift their lessons to more learner-centered approaches. From the above review, in order to implement the child-centred approach successfully necessary resources should be available in schools.

2.4.2 Child Centred Approaches and Language Activities

In United States, Davidson Walters and Elizabeth (2015) argued that strategies that promote the development of language skills are renowned in early childhood education. Davidson et al, (2015) investigated the influence of Indirect Language Stimulation (ILS) methods on receptive and expressive oral language of 4 year-olds learners using techniques that could be easily taught to teachers and implemented in the classroom. Results indicate that learners in classrooms where teachers received the professional development, they had significantly higher growth in expressive language scores than learners in comparison classrooms. They study opined that a low-cost 2-day training intervention can be beneficial for ECDE teachers and their 4-year-old learners' language acquisition. Davidson and authors research focused on the influence of teacher training on pre-school learners' language development while this study focused on how child-centred approaches were utilized in the teaching and learning activities in language activities in West Pokot County, Kenya.

A study carried out in Britain by Sarah (2013) on teachers' roles in promoting literacy in the context of play, assessed the role of pre-school teachers in promoting literacy

during children's play. The study revealed that teachers acted as discussion leaders, examiners, storytellers and decision makers in classroom. While the study used observation only as a method of data collection, the current study utilized various methods of data collection like questionnaire, interviews, to add on lesson observation schedule. This study was also meant to find out the role of teachers in integration of play activities in the entire ECDE curriculum other than looking at integration of play in a specific aspect of curriculum like literacy only.

Kumar (2014) study was to determine the effectiveness of the audio-visual intervention program on the language development of preschool children in relation to their socio economic status. The researcher employed experimental research method to conduct the study. The sample size comprised 100 learners from preschool of Rohini, Delhi India. They found out that audio-visual intervention program had positively affected the overall language development of the preschool children. They also established that audio-visual intervention program was not differently affecting the language development of the preschool children at different SES levels. The difference between the current study and Kumar is due to the approach (experimental) research involving learners while this study involved teachers.

In their study, Ahmad and Aziz (2009) noted that some teachers believed that classes should be teacher centred. This is where the teacher is the expert and the authority in presenting information. Ndirangu (2004) observed that that inappropriate classroom skill such as the use of teacher centred methods sabotaged the achievements and goals of even the ECDE curriculum. Eken (2000) cited by Towett, Indoshi and Okwach (2013) noted that in a student centred class, teachers were more of facilitators and students take on the discussion role, students were seen as being able to assume a

more active and participatory role compared to traditional approaches. This teaching method promoted active participation of students in classroom activities. However, in a classroom setting a teacher should be well equipped with different methods of teaching English.

Mmela (2010) found out that teacher learning was a gradual developmental process that depended very much on other interlaced processes of inquiry, collaboration and reflective practices. The research result also showed that child-centred integrated literacy approaches of the constructivism-based were still a challenge in the primary classes despite them being included in the curriculum. Mmela (2010) attributed that many learners in Malawi did not achieve English language competencies as expected. Several reasons contribute to this lack of achievement. They were: most teachers were not competent in English, classrooms are overcrowded, and lack of reading materials and English-speaking models were inadequate (Banda et al, 2001), and the teaching approaches.

Sonia (2006) study examined literacy instruction in kindergarten classrooms and relationship between teaching practices and kindergarten learners literacy outcomes in United States, North Carolina. Quantitative measures of classroom practices and quantitative child literacy outcomes were used to examine this relationship. Data analysis suggested that classroom instructional practices were not related to student literacy achievement. Learners demographic characteristics of socio-economic profile and home literacy environment appeared to be the most significant predictors of student literacy achievement.

Matsau (2007) investigated the use of learner-centred approach in the teaching of English and Sesotho languages in Lesotho secondary schools. The findings, based on

learners' and teachers' questionnaires, observations and focus group discussions, indicated that certain learner-centred strategies suggested in the syllabus as well as other methods were used; and certain skills and content knowledge were acquired from each learner-centred strategy simultaneously. Past experience was crucial in assisting learners to form and build new knowledge. Moreover, it was apparent that learners and teachers considered working alone (not always considered a learner-centred strategy) to be important in building confidence and independence skills. This showed underutilisation of CCA approach in teaching language activities in Lesotho. This study determined the degree to which CCA was used to teach language activities in pre-schools in Kenya.

Tarimo (2013) study sought to establish the determinants of ECDE teachers' use of play as a teaching strategy in Mwanza District, in Tanzania. This was due to the fact that Early Childhood Education (ECE) programme in Tanzania was a relatively young discipline as compared to other East Africa countries. A descriptive survey design was employed with independent variables being type of school, teachers experience, teachers' motivation, teachers' training status, and the availability of play materials while dependent variable was pre-primary school teachers' utilisation of play as a teaching approach. The study findings showed that more than half (57.5%) of teachers used play as a teaching strategy while less than half (42.5) of teachers did not use play as a teaching strategy. This indicated that close to half of pre-school teachers did not use play as a teaching strategy. The study found out that availability of play materials and teachers' levels of motivation were probable factors which influenced teachers' use of play as a teaching strategy.

In another study by Wangui (2011) investigated the influence of learning environment on reading comprehension among pre-unit learners in Kikuyu Division, Kiambu County. The objectives that the study sought to achieve were to investigate whether the ECDE learning environment facilitated learning activities, determine types of instructional materials used and find out how teachers used learning environment to facilitate reading comprehension among learners. Analysis of the results revealed that: lack of adequate facilities, failure to use appropriate teaching methods were the factors that affected reading comprehension. They found out that implementation of child-centred approaches was hindered by the above named factors. However, this study did not evaluate child-centred approaches and their influence on learning and teaching activities in ECDE.

Wanjiku (2014) study sought to find out the influence of teachers' characteristics on motivation of preschool children in learning the English language in Starehe District Nairobi County. The study adopted a descriptive survey design that employed quantitative and qualitative approaches. The study was guided by Maslow's human needs theory. The findings of the study revealed that teachers who have been in the profession for a long time motivated pre-school children better than those who are fresh from colleges. They encourage both boys and girls in the English language activities. However, the teachers who are certificate holders have poor pragmatism concept and are not flexible enough to achieve that level of motivation which leads to children's good performance. The study concluded that there is a need to have regular in service training for the preschool teachers in order to equip them with new teaching methodology.

Towett, Indoshi and Okwach (2013) determined the perceptions of teachers and learners on the methods used in teaching and learning of English writing skills in secondary schools in West Pokot County of Kenya. The study used a descriptive survey methodology with English teachers and 2580 form four learners forming the study population. The study revealed that both teachers and students had negative perception on teaching approaches used in teaching and learning of English writing skills. Negative attitudes were found to be the cause for learners' poor performance in national examinations in English. Towett, Indoshi and Okwach (2013) conducted their study in secondary schools while the current study focuses on pre-school stage. Moreover, the authors used simple random sampling selection method rather than stratified random sampling bearing in mind that they were selecting form four students only in schools. Moreover, the authors used questionnaire as a data-collecting instrument rather than using interviews and tests to tests learners' competencies in writing skills.

Ogott et al, (2011) carried out another study on teachers' attitudes on selection, development and use of language instructional materials with regards to: human, administrative, target task and physical factors. Though the study was based on descriptive survey design similar to this study, the study employed attitude test questionnaires only as sole instrument of data collection. The current study employed interview schedule, lesson observation schedule and questionnaires to collect data. Ogott et al, (2011) study found out that most teachers had positive attitude on physical factors, target task human factors and administrative factors with regard to language material selection, development and use. This study on the other hand examined the role of teachers in integration of play activities in ECDE curriculum. From the above review, learners' competencies in language activities seem to be promoted through

teaching approaches that teachers use. Therefore the current study investigated the influence of child-centred approaches on pre-school children acquisition of language skills in West Pokot County ECDE centres.

Ogott (2011) studied on factors influencing use of language materials in early childhood development and education centre in Gem Sub-County, Kenya established that the use of relevant language material influence positively the learning of language in Early Childhood Development and Education centres. While Ogott's (2011) study had a sample size of 38 teachers and focused on factors influencing the use of language materials in Early Childhood Development and Education centres, the present study had a study sample size of 157 teachers, and 35 head focused on the relevance of child-centred approach use and pre-school learners development of language skills in West Pokot County.

Wanjiku (2014) looked at the influence of teachers' characteristics on motivation of preschool children in learning the English language in Starehe District Nairobi County. The study adopted a descriptive survey design that employed quantitative and qualitative approaches. The study was guided by Maslow's human needs theory. The findings of the study revealed that teachers who have been in the profession for a long time motivated pre-school children better than those who are fresh from colleges. They encourage both boys and girls in the English language activities. However, the teachers who are certificate holders have poor pragmatism concept and are not flexible enough to achieve that level of motivation which leads to children's good performance. The study concluded that there is a need to have regular in service training for the preschool teachers in order to equip them with new teaching methodology.

Moraa (2014) investigated the influence of teacher related factors on implementation of IEC in public secondary schools in Ekerenyo Division, Kisii County. The objectives of the study were to determine extent to which teaching experience and age, academic and professional qualifications teaching styles and how English teachers' attitude affected implementation of integrated English curriculum in schools (English and Literature). The study found out that most English teachers would appreciate if integrated English was to be incorporated in their pre-service training while at the same time in-service programs to be extended to those already in service during school holidays. There were adequate English teachers in the Division with the required academic and professional qualifications to handle the integration. However, research recommended that attitude among teachers needed to be addressed adequately for better KCSE results.

Moraa (2014) concluded that for effective implementation of integrated English: teachers' teaching experience, professional qualification, attitude of teachers' of English on implementation of IEC, academic qualifications and teaching styles of integrated English needed to be adhered by all teachers as they influenced learners performance in English which is a core subject in Kenya education system. The researcher noted that despite in service training been organized frequently, most of the teachers still found a challenge in implementing IEC. This shows that there exist gaps in which child-centred approaches affect the implementation of English language curriculum in secondary schools. This study determined the extent to which teachers used child-centred approaches in implementing language activities in pre-schools in West Pokot County.

2.4.3 Child Centred Approaches and Science Activities

Studies have been done on the influence of child-centred approaches in teaching and learning in ECDE. McDermid (2015) study found out that there was difference in academic achievement between male and female learners in Science. This showed that gender variable influenced learning Sciences. Buyuktaskapu (2011) study was to find out ECDE teachers' beliefs about ECDE learners' ability to learn science concepts and subjects and in connection with their beliefs examine teacher perception of their ability to succeed in science teaching. The sample size for the study comprised of 100 teachers who were working in ECDE centres in Turkey. According to study results, it was established that ECDE teachers' beliefs about their self-efficacy in science education was average and they preferred using traditional methods instead of constructivist methods in science teaching. Teachers with high self-efficacy in science teaching prefer to use traditional methods in science teaching. This study's results indicated that in ECDE science teaching learners are transferred shallow information in many subjects. This research determined the degree to which teachers in Kenya used child-centred approaches in science activities in ECDE.

In Philippines, Anne and Noa (2013) found out that applying learner-centred approach in a science experiment would develop the learners' scientific skills in observation and measurement. Learners experienced manipulating the measuring device or equipment and were personally involved in data collection. The learner-centred approach enhances personal growth and encourages learners to utilize self-regulation like following class instructions or procedures.

In South Africa, Madlela (2014) investigated how child-centred approach was used in teaching Natural Science (NS) subject in Johannesburg city East schools. Most

attention was paid on which teaching methods were used and how they were used to teach NS. Data was collected from 5 randomly selected schools in Johannesburg East through observation of teachers teaching and also through focus group discussion. The study established that most teachers still used the out-dated lecture method contrary to Curriculum Assessment Policy Statement (CAPS) 2012 policy that called for an end in the use of traditional teaching methods such as the lecture method in South Africa. This study established whether teachers in West Pokot County complied with curriculum directives on the use of child-centred method in teaching science activities.

In Kenya, Mutiso (2014) investigated the impact of reflective teaching on ECDE learners' performance in science activities in Iveti, Machakos County. The research utilised quasi-experimental research design by focusing on eight ECDE, four in the experimental group and the other four in the control group. The study targeted two hundred and seventy (270) ECDE learners. The ECDE learners were assessed before and after two weeks of teaching. The findings were that learners who were taught science activities using reflective teaching in addition to non-reflective teaching performed better than learners who were taught science activities using non-reflective teaching approach only. This implies that ECDE learners need to be taught science activities that help them reflect back on the learnt information. The teaching of ECDE science activities should be taught using reflective teaching in addition to non-reflective teaching approach.

In another research, Obuchere, Okello and Odongo (2014) research sought to establish the role of teachers in integration of play in ECDE curriculum. The study was based on Descriptive survey design. The sample size for the study comprised of four

hundred and thirty (430) pre-school teachers drawn from 215 pre-schools and one education officer. The study found out that most of teachers did not fulfill some of the roles specified to them in integration of play activities in ECDE curriculum. This inhibits the role of teachers in integration of play in ECDE curriculum. The study presented quantitative data results despite showing they used observation and interviews as research instruments. From the above review, there exist empirical studies on teacher use of child-centred approaches and teaching and learning of science activities in pre-schools.

Kangori (2014) investigated teacher related factors in the implementation of science activities in pre-schools in Nairobi County. A descriptive research design was used to conduct the study. The study sought to investigate how teacher's related factors such as professional and academic qualification, teaching strategies and teacher's attitude influence implementation of science activity curriculum in Early Childhood Education Centres in Nairobi County. It was found out that teachers' teaching strategies did influence preschool children achievement in science activity.

2.4.4 Child Centred Approaches and Creative Activities

Nyangeri (2014) investigated the use of music as a medium of instruction by pre-primary school teachers and how it related to factors that influenced use of music as a medium of instruction. The factors investigated were: teaching experience, teacher training, attitude towards music and academic qualifications. The study utilised ex-post- facto research design. The sample size included all pre-primary school teachers in all the 28 pre-primary schools in Kitale Municipality. The study established that there was a significant relationship between ECDE teachers teaching experience and use of music as a medium of instruction. The researcher found out that ECDE

teachers were using music as a medium of instruction in all the activity areas. From the findings of the study, it was also clear that varieties of music instruments were available for teaching like drums, shakers, flutes, sticks, fiddles, bottles, nails, reeds, horns, guitar, whistles, and leg bells were available in schools for instruction. Nyangeri focused on determinants of ECDE teachers' use of music as a medium of instruction while the current research focused on the extent to which activity based medium of instruction approaches facilitate learning in ECDE. The population was small and not defined. Moreover, the researcher used advanced statistical testing methods rather than using simple methods that requires a population of more than 30 respondents.

Andiema, Kemboi and M'mbonne (2013) study sought to establish relationship between play activities' implementation and learners' academic performance in West Pokot County. The researchers used descriptive survey design. All the 417 public ECDE centres in West Pokot County formed the study. Result showed that most ECDE centres had inadequate playgrounds and were not provided with instructional materials required. Similarly, the centres used play activities time for other activities. ECDE teachers did not engage and participate with the learners in the playfields. Andiema et al, (2013) research focused on one aspect of child-centred approaches: the activity based approach while the current study checked on other child-centred learning approaches in mathematics, languages and sciences.

In a study conducted by Eslami (2010), among a random sample of 20 ECDE and using regression analysis, Eslami found that learners can only be interested in what they already know about. If the focus was only on what learners were already interested in, they will have a limited pool of ideas and interest to draw on. This

limited pool will interfere with creating a rich and engaging program, in collaboration with learners and families. While the curriculum decisions need to respect and involve learners, ultimately the creation of the curriculum is the responsibility of teachers hence ensuring effective learning outcomes.

In the views of Brown (2011), in his study argued that making use of learner's interests to provide engaging and meaningful learning experiences is important to their learning outcomes, but it is also the role of educators to introduce new ideas and interests. Sometimes these will be things that they know are important for learners to learn, but that may never come up as an interest for example, road safety, sustainability or nutrition. That child will be interested once they are introduced to them for example cooking or gardening in many topics. This research investigated the extent to which child-centred methods influenced teaching and learning of creative activities in ECDE centres in West Pokot County.

Mweru (2012) conducted a research on teachers' influence on children's selection and use of play materials in selected ECDE Centres in Nairobi City, Kenya. The study was meant to establish among 36 teachers, teachers' gender stereotyped views and if they communicated these views to children during selection and use of play materials. An observation schedule instrument was used collect research data. It was established that teachers influenced children in a gender stereotyped manner with more influence being exerted on boys compared to girls. The teachers influence on learners was found to encourage them to adopt gender roles that were not always fair to the two categories of learners. Mweru's (2012) study differed from the current study as it had a larger study population than Mweru's (2012) which comprised of only 36 teachers. The present study also employed: interview schedule and questionnaires lesson

observation it was meant to find out the role of teachers in integration of activities method in ECDE curriculum in West Pokot County.

Nguku (2015) investigated the influence of play on preschool 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 influence on children's performance. The study was hinged on Froebel's theory which states that play are a serious and deeply significant activity for young child. Froebel viewed kindergartens as institutions where children instructed and educated themselves. It was also a place where children developed and integrated all their abilities through play. The study employed quasi-experimental research design and the 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.

Nguku (2015) study established that use of different play materials had a positive influence on academic performance of preschool children. It was found that 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 was found out to have a significant influence on academic performance.

Ngecha (2011) observed that is that despite government commitment to improve pre-school education, learning through play by learners had been dismally below expectation. With this problem, Ngecha studied to determine factors that hinder play in public pre-schools in Makadara District, Nairobi County, Kenya. The researcher established that most teachers from public pre-schools are aware of the government policy on play. This was exhibited in the manner in which they conducted play activities. However, outdoor play policy was not fully implemented in pre-schools. The study also concluded that availability of playing materials and facilities enhanced children's skills such as communication skills, social skills problem-solving skills and others. Further conclusions showed that the teachers in private schools participate more in outdoor play than the others in other categories.

Odongo (2007) qualitative study examined teachers' perceptions on their use of music as a medium for enhancing development in all early childhood domains/areas (e.g., cognitive, communication, physical/motor, social-emotional and self help). Eight early childhood teachers, four drawn from Kenya and four from the United States, responded to open ended interview questions about their experiences of teaching and using music in their classrooms and personal preparation for use of music in teaching young children. Observations in preschool classrooms were also conducted by the researcher to document the use of technologies, musical instruments and music resources used to observe planned or natural opportunities for children's involvement in music. Results revealed strategies used to teach music, the role of music in early childhood curricula, instructional strategies used including singing and movement and use of musical instruments. From the review of empirical studies, it is evident that there exist gap in studies conducted locally on how utilization of child centred

approaches and their influence on teaching and learning activities in public ECDE centres in West Pokot County.

2.5 Knowledge Gap

The knowledge gap for the study is presented in Table 2.1.

Table 2.1 Knowledge gap

Author (s)	Objective /purpose	Method	Findings	Gap
Hoppenbrouwer (2011)	-Observed teacher-child interaction during the intervention, and to test differences in learners cognitive and numeracy skills after the intervention	-Research was conducted in 3 rural schools involving quasi experimental research design	-All the learners had a significant improvement in their numeracy skills after intervention using child-centred approaches	-The study was conducted in South Africa -The sampling was rural population -The methodology was quasi but results were done using comparative research design
Ronkko& Aerila (2015)	An LCE model as an utilisation of the experiential learning during the holistic craft process	Used a longitudinal research (2011-2012) Utilised secondary data Used qualitative analysis	Learners can derive benefit from literature and activities during craft making process	Study used two research design (longitudinal & case study) Data was not specific Study focused on a single model of child centered activities study was conducted in Finland
Popoola (2014)	investigated the affects of play-way method on the numeracy skills of early basic education learners in Ekiti State, Nigeria	Targeted learners aged 4-5 years The research was quasi experimental	There was significant difference in the performance of learners in favour of those in guided play group	Used one method of child-centred approach (play) on acquisition of numeracy skills Conducted in West Africa

Author (s)	Objective /purpose	Method	Findings	Gap
Buyuktaskapu (2011)	Examination of ECDE Teachers' Beliefs About Science Education	Sampling of the study composed of 100 teachers	ECDE teachers' beliefs about their self efficacy in science education is average and they still adopt traditional methods instead of constructivist methods in science teaching	Study dwelt on perceptions rather than actual usage of CCA methods Cultural and religious belief is embedded in the education system The study was conducted in Turkey
Davis (2009)	ECDE Learner's Acquisition of Mathematical Competencies	Used qualitative methodology Examined past researches	Many teachers and prospective teachers of ECDE learners were poorly prepared to teach mathematics	The study relied on secondary sources of information The study did not specify the CCA used in ensuring learners acquired mathematical competencies
Mmela (2010)	Implementing Integrated Literacy Approaches in an English Classroom in Malawi	Used interviews, observation and journal articles as sources of data collection	Learner centred integrated literacy approaches implementation is a challenge	– Study was conducted in primary schools
Mutiso (2014)	Impact of Reflective Teaching on ECDE Learners' Performance in Science Activities	The study used quasi experimental research design focusing on eight ECDE,	Learners taught science activities using reflective teaching performed better than learners who were taught science activities using non-reflective teaching approach	Used one approach (reflective teaching) Looked on one aspect of teaching activities

2.6 Chapter Summary

The chapter has highlighted theoretical and empirical literature on utilisation of child-centred approaches and their influence on teaching and learning activities in ECDE. The review has shown that related studies have been done in developed and developing countries on how different child-centred teaching approaches apply on teaching and learning of Mathematics, Science, Language and Creative activities in ECDE centres. The review of literature show that studies have focused on primary and secondary schools as opposed to pre-schools. Moreover, few studies have been conducted in Kenya and this shows that there exist gaps on how different child-centred approaches are utilised to promote learning in Kenya

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter gives information concerning the processes that were used to obtain and analyze data in this study. This chapter covers the study area, philosophical research paradigm, research design, target population, sampling procedures and sample size for the study as well as the research instruments used. A discussion on the validity and reliability considerations of the research instruments, data analysis techniques, and ethical considerations of the entire research is provided too.

3.2 Study Area

Geographically, the study was conducted in West Pokot County. The County is composed of four Sub Counties namely: West Pokot, Central Pokot, North Pokot, and South Pokot. The area was selected because West Pokot County is one of the Semi-Arid Lands (ASALs) which receive little annual rainfall below 750mm. In this region, education of learners is affected by climatic conditions and insecurity due to cross-border raids and high poverty levels occasioned with droughts. Moreover, according to EYC (2015) report, majority of public ECDE centres are understaffed and low number of teaching staff may affect effective curriculum delivery. Non-Governmental Organisations like Save the Children, World Vision among others also support educational projects in the county.

Issues related to lack of adequate instructional resources and teachers could affect teaching and learning in West Pokot county. Most of early childhood education officers in charge of quality assurance and standards (QASOs) do not regularly conduct inspections in schools (Murunga, 2015). There are few similar studies

(Uwezo, 2014; Nyangeri, 2014; Metto & Makewa, 2014) done in the study area. It was therefore believed that the study area gave a wider and variety view of the problem under study with regard to teaching and learning activities in ECDE centres.

3.3 Philosophical Paradigm

This study investigated teacher utilisation of child-centred teaching approaches in the teaching and learning activities in ECDE centres. This study utilised pragmatism philosophical approach. Pragmatism is a philosophical movement that is based on claim that an ideology is correct if it performs acceptably and that the idea of a scheme is to be found in the practical consequences of complying with it as well as unrealistic meaning are to be abandoned (McDermid, 2015). Pragmatic knowledge arose out of action, summations and consequences rather than depending purely on coincident conclusions (Creswell, 2014).

The study used pragmatism philosophical paradigm that supports the use of child-centred teaching approaches in classroom learning. This is because pragmatist advocates for reality learning. In most classrooms, learning is always theoretical where teachers direct learners in all aspects of teaching. However, pragmatists believe that a participative environment has to be created to ensure that learning not only takes place in theoretical form and also practical form as well. These are the tenets that hold child-centred teaching approach philosophy. Learning has to take place inside as well as outside the classroom.

3.4 Research Methodology

This study used a mixed method research design. According to Johnson and Onwuegbuzie (2010), mixed method research is an approach that incorporates ideas from qualitative and quantitative research. Creswell (2014) indicated that mixed

methods is a research approach in which the researcher collects, analyzes, and mixes both quantitative and qualitative data in a single survey. Pragmatism also relates to the use of mixed methods research method which the current study was based on (Tashakkori & Teddlie, 2006; Punch, 2009; McDermid, 2015).

The study therefore adopted the mixed methods design that enabled the researcher look to many approaches of collecting and analyzing survey data rather than using a single method. The above paradigm allowed the use of qualitative and quantitative methods of data collection. Therefore, a mixed method research which converge quantitative and qualitative data to provide comprehensive analysis of research problem (Creswell, 2014). The study used questionnaires, interviews and observations as instruments for the study. The credibility of research instruments was attained by collecting data from head teachers and teachers. The use of different sources of data collection minimized differences and biases held by people in various roles. This was also done by location triangulation which was done by gathering data from 4 sub counties in West Pokot. This minimized any biasness the researcher may have had during research process.

3.5 Research Design

Research design is a sketch and the procedures for research that cover the decisions from broad assumptions to detailed methods of data collection and analysis (Johnson & Onwuegbuzie, 2010). They point that, research design is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation. That is whether the obtained data result can be generalised to a large population (Bryman, 2008).

There are several research designs used by different scholars: descriptive, correlation, case studies, ethnography, experimental, ex-post facto, longitudinal survey among others (Punch, 2009; Kothari, 2012). However, this study only used descriptive survey design since it sought teachers and head teacher's opinions on utilisation of child-centred approaches in public ECDE centres in West Pokot County. The design allows the use of mixed method research (Johnson & Onwuegbuzie, 2010).

Ogula (2009) added that survey design allows the use of mixed method research to collect data hence the use of questionnaires, interview schedule and document checklist to ensure validity of the research findings. The design enabled the researcher to seek opinion on the frequency to which teachers used child-centred approaches in teaching and learning activities in pre-school. Kothari (2012) stated that descriptive survey research design presents facts, existing conditions concerning the nurture of persons, a number of objectives or class of events and may entail procedures of enumeration and induction analysis, classification details together with measurements.

Descriptive surveys are used to systematically meet realistic proven information necessary for judgement making (McMillan & Schumacher, 2010). Kothari (2012) noted that a survey research design is preferred due to the fact that it enabled the researcher to examine various data and the relationship between other unknown situations in the prevailing scenarios. The research design is concerned with present relationship of variables and processes taking place in the study area (Sekaran & Bougie, 2010). The survey enabled the researcher to collect data from a wider area in a shorter time thus cutting down on costs.

3.6 Target Population

Target population refers to that population which a researcher wants to take a broad view of the results of a study (Kothari, 2012; Coolican, 2013). In this study, the target population comprised of all teachers and head teachers in 489 public ECDE centres in West Pokot County. However, the accessible population for the study comprised of head teachers and teachers from 417 public ECDE centres which were under public primary schools, 1677 teachers and 417 head teachers drawn from 417 ECDE in West Pokot County (West Pokot County Education Office, 2015).

The reason for targeting head teachers and teachers from public ECDE centres that were attached to primary schools was to enable the research get more information from head teachers with regard to the frequency to which child-centred approaches were used. Moreover, in selecting participants for the study, the main aim was to gather a wider representative range of respondents from the public ECDE centres in West Pokot County. Table 3.1 shows the target population of the study.

Table 3.1 Population Distribution of Schools, Head teachers and Teachers

District	Number of schools	Number of head teachers	Numbers of teachers
i West Pokot	135	135	518
ii Central Pokot	105	105	425
iii North Pokot	92	92	378
iv South Pokot	85	85	356
Total	417	417	1677

Source: County Director of Education, West Pokot County, (2015)

Table 3.1 Indicates that the total number of ECDE schools in West Pokot County is 417 with West Pokot Sub County recording the highest (135) number of schools due

to its well-developed infrastructure followed by Central Pokot with 105 schools, Sub County which is located centrally between other sub counties. Thirdly, North Pokot has 92 schools while South Pokot has 85 schools. A total of 135 head teachers and 518 teachers were targeted from West Pokot Sub County, 105 head teachers and 425 teachers from Central Pokot, 92 head teachers and 378 teachers from North Pokot and 85 head teachers and 356 teachers from Pokot South Sub County.

3.7 Sampling Size and Sampling Procedures

The quality of research is influenced by the appropriateness of methodology, instrumentation, and suitability of the sampling strategy that has been adopted (Kothari, 2012). The sampling procedure describes the process of selecting respondents to participate in the study and act as a representative of the whole target or accessible population (Kombo & Tromp, 2006). Sampling technique is defined as a process of selecting a suitable sample for the purpose of determining the parameters which the researcher used to select representative respondents from the accessible population (Adams, Lohman, Fernandez, Macfarlane & Gschwend, 2007; Orodho, 2012).

3.7.1 Sample Size

Sample size is the number of units, persons, specified circumstances in a population to be studied (Gall, Borg & Borg, 2007; Creswell, 2014). Kothari (2012) informs that a survey research design requires a large sample particularly if inferential statistics are to be calculated. However, the choice of sample size depends on sufficient funds, personnel, time and geographical distribution of the population. Creswell (2014) noted that the primary issue in choosing a sample size is to ensure that the sample size

is sufficient to act as a representation of the population from which it is drawn. The study used both probability and non-probability sampling designs.

According to William, Rothwell and Kazanas (2011), sample size of 5 or 10 % of a population is adequate for any purpose. Ideally, 10% is legitimately within the 30% quota. The accessible population of head teachers and ECDE teachers was relatively large hence a sample size was selected to represent the target population.

From the population of teachers from 417 public ECDE centres, the study used 10% to act as the sample size. The choice of 10% was justified by various researchers (Yount, 2006; Sekaran & Bougie, 2010) who contend that 10%-30% is considerably representative sample and is viable in social science studies. Gall et al, (2007) further argued that similarity of characteristics of respondents permits the researcher to select a study sample of not more than 30% of the accessible population. In addition, Mugenda (2008) maintained that 10% of the population can be used to generalize on the entire population when it is too large and be able to manage it.

A target of 417 ECDE centres gave a sample size of 41 ECDE centres and a target of 1677 gave a sample of 168 ECDE teachers. Therefore the sample size for head teachers and teachers totalled to 209 respondents. The study sampling frame is shown in Table 3.2.

Table 3.2 Sample size: distribution of teachers and head teachers

No.	Respondents		Head Teachers		Teachers		Total sample size
	Sub county	Target	Sample	Target	Sample		
i	West Pokot	135	14	518	52	66	
ii	Central Pokot	105	10	425	43	53	
iii	North Pokot	92	9	378	38	47	
iv	South Pokot	85	8	356	36	44	
	Total	417	41	1677	168	209	

Source: County Director of Education West Pokot County, (2015)

The researcher stratified the county into sub counties as indicated in Table 3.2. Based on the stratification, 66 respondents were selected from West Pokot, 53 from Central Pokot, 47 from North Pokot and 44 from South Pokot. However, during data collection, not all of them responded to the research instruments, not all schools in each sub county participated. For instance, the researcher managed to successfully conduct 35 interviews with head teachers out of a possible sample of 41 signifying a 93.45%. On questionnaire, 168 were issued and 157 were returned signifying 85.36% response rate for school heads and 93.45% for teachers. This response rate was high as supported by research scholars (Kothari, 2014).

3.7.2 Sampling Procedures

The study involved participation of all public ECDE centres attached to primary schools in West Pokot County. At first, the study had to select 417 already established ECDE centres out of a total of 489 to participate in the study based on the sub counties they came from. This was done on the basis of their ability to provide the required information. Stratified sampling technique was used to categorise the study area into four strata; North Pokot, Pokot South, West Pokot and Pokot Central.

Thereafter, from each sub county, only 10% of the selected schools were chosen to participate in the study.

After stratification, the study used simple random sampling technique which is a probability sampling method to select ECDE teachers. In simple random sampling method, each member of the population under study has an equal chance of being selected (Creswell, 2014). Bias is avoided in random sampling, because there is a high probability that all the population characteristics are represented in the sample.

The selection of teachers to participate in the study was not based on the number of schools but the target population irrespective of whether the researcher conducted observations or interviews with head teachers. For instance, 518 teachers were targeted from 135 schools in West Pokot Sub County while the sample size required was 52. Therefore to select 52 teachers, simple random sampling procedure using the lottery method was used to select the sample size in every sub county. The researcher assigned random numbers to the 417 public ECDE centres which were used to identify whether their teachers were selected. The method involved putting the names of 518 teachers based on their schools in West Pokot County in a container. Thereafter, the researcher raffled them in a container and started drawing names from a container until the required number was reached of 41. The same procedure was repeated for the other three sub counties; Central, South and North Pokot.

This study used purposive sampling to select head teachers. Ogula (2009) informed that it is also called judgemental sampling. One head teacher was selected purposively from every ECDE centre, a total of 41 head teachers were selected to participate in interviews from the four sub counties. In this method, the choice of person to participate in the study depends on the subjective judgement of the research. Ogula

(2009) cautions that the researcher should ensure that the sample selected is representative of the population. As indicated in Table 3.2, 41 head teachers out of 417 ECDE were selected to participate in the study.

3.8 Data Collection Instruments

The data collection instruments used in the research collected both qualitative and quantitative data. This study used questionnaire, interview guide and observation to collect data relevant to the study. The researcher developed the research instruments based on the objectives of the study. Patson and Warren (2014) state that a variety of instruments need to be used in all investigations since no single method adequately addresses the problem since each method brings to the fore different features of empirical reality. The use of different data collection instruments also promoted triangulation which enabled the researcher to obtain a variety of information on the same issue (Creswell, 2014) from different sources of data. It also strengthens each method to overcome the deficiencies of the other method, it ensures the researcher achieves a higher degree of reliability and validity and enables the study to overcome deficiency in the use of single method of collecting data.

3.8.1 Questionnaire

A questionnaire refers to a collection of items to which a respondent is expected to react usually in written (Dwivedi 2009; Kothari, 2012; Sekaran 2013) Questionnaires are resourceful data collection instruments which enable the researcher to measure the variables of concern. Questionnaires are easy to administer and analyze (Kothari, 2012). The questionnaire was advantageous to use because it covered a large population within a short time, it had minimal cost on the part of the researcher and it intensified independence and accuracy of responses from the respondents; Sekaran,

2013). Structured questionnaire was administered to the 161 ECDE Centres teachers. The questionnaire was chosen because they provided a more comprehensive view than any other research tool. Questionnaires were used to obtain primary data from the sampled population.

The questionnaire was formulated according to the study objectives in a systematic procedure. The researcher administered the questionnaires personally to the respondents and thereafter the filled questionnaire was collected immediately for data analysis. The questionnaire was sub-divided into two sections. Section A dealt with demographic description of the respondents such as gender of respondents, status of ECDE centre, working experience of the teachers, and professional qualification of the teachers. Section B had questions on the four child-centred approaches: child interest, child needs, discovery and activities based approaches. The questions were developed in a scale of five; always (5), often (4), sometimes (3), rarely (2) and never (1) which were used to determine the frequency to which pre-school teachers used the four mentioned child-centred approaches.

Section C of the research questionnaire contained items that measured the level of teaching and learning activities based on four constructs: Mathematics, Languages, Sciences and Creative activities. The scale used to measure the level of teaching and learning was low (1), below average (2), average (3), high (4) and very high (5). Moreover, the questionnaire also had open-ended questions to which the researcher sought teachers' perception on the relationship between the use of child-centred approaches teaching and learning in ECDE centres. The use of multiple measures was important to assess the key constructs of the research questions (Howard & Blum, 2010; Kothari 2012). These multiple questions are aimed to

provide a more reliable overall measure of each construct (Neuman, 2007; Bickman & Rog, 2009; McMillan & Schumacher, 2010). Teacher questionnaire appears in Appendix II.

3.8.2 Interview Guide for Head teachers

This study made use of face to face interview as a method of data collection. An interview guide is a set of questions that an interviewer asks while interviewing the respondents. Interview was used in collecting data from the head teachers of 41 ECDE centres. An interview guide made it possible to obtain information necessary to meet the exact goals of the study (Orodho, 2012). Interviews are easy to administer since questions are already prepared. The investigator follows a firm method and sought answers to a set of pre-conceived questions through individual interviews (Kothari, 2012).

An introductory letter was sent to the targeted head teachers prior to the study. Scholars (Kothari, 2012; Creswell, 2014) indicate that interview guide is mainly appropriate for exhaustive investigation. This study preferred to use interview schedule because an interview schedule provides a free environment for the respondents to express themselves and even give rise to additional information, which could not be catered for in the questionnaire.

Some of the advantages of using interviews are that the researcher obtains more information as well as supplementary information about the respondents (Berg, 2009; Punch, 2009; Depoy & Gitlin, 2011). Interviews enable the researcher to get in-depth information and required data through the use of probes (Mugenda, 2008). Interview eliminated many sources of bias common in other instruments. The researcher interviewed 41 head teachers. Each head teacher was interviewed individually. The

interview squared against confusing questions which needed clarification since respondents had a chance to seek for clarification on any of the questions that were deemed ambiguous. Interviews are flexible can take care of sensitive remarks and have a high rate of response. On the other hand, interviews are disadvantageous in that they can be abused, time consuming and cannot be used effectively if the population target is too large (Kombo & Tromp, 2006; Neumann, 2007). A copy of the interview guide appears in Appendix III.

3.8.3 Observation Guide

In order to generate data, Anglenmyer, Bero and Lisa (2014) argues that classroom observations can be undertaken for the purpose of studying and understanding the learners behaviour as well as getting first-hand information about the actual child-centred strategies applied in the classrooms. An observation guide was prepared by the researcher in order to investigate child-centred approaches in ECDE centres. The instrument was chosen since it overcomes some of unavoidable disadvantages of questionnaires where respondents could give biased information Mugenda (2008). Observation is part of the naturalistic approach as a constructivist researcher to understand the world of the research participants (Depoy & Gitlin, 2011; Orodho, 2012).

A check list guide was constructed for this purpose. What was observed was noted down and was useful data for analysis to support and confirm information from the rest of the research instruments. In this study, direct observation and coding was employed while analysis was done later. Direct observation was suitable for descriptive studies since it is objective based and facilitates the derivation of more real information (McMillan & Schumacher, 2010; Kothari, 2012).

Patton (2002) argued that generating more questions through observations when the study is in progress further enriches the study. Facts from observation were critical in helping strengthen validity of teachers' interviews and educational officials' narratives and interpretation of curriculum. A copy of the observation guide questions appears in Appendix IV. Sometimes the respondents fail to accurately recall events and aspects in which the research is interested.

The information collected through observation was used to supplement the information collected through questionnaires. The researcher used the instrument to observe the available play materials, play facilities, in both indoor and outdoor settings, classroom learning, learners' response and attentiveness in class and teachers classroom teaching strategies. Observations were conducted in 41 schools by checking how mathematics, languages, science and creative activities were conducted.

3.9 Validity and Reliability of the Research Instruments

When formulating a detailed tool, reliability and validity are two of the most important characteristics to be considered when testing the research instruments (Punch, 2009; Kothari, 2012). Ogula (2009) indicate that is important for researchers to show their audience that the measures they used were valid and reliable. Unless they do this, some people are likely to doubt the reliability and validity of research findings and conclusions. The study therefore, conducted a pilot study, tested validity and reliability of the research instruments as explained in the sub-sections.

3.9.1 Piloting

Piloting of instruments is a crucial element of a good study design. Conducting a pre-test study does to guarantee success in the main study but it does increase its chance

of efficiency (Madsen & Venka, 2012). The questionnaire used in this study was pre-tested through a pilot study before actual data collection. This enabled the revision of the questionnaire and interview guide before actual data collection in terms of their content.

To establish validity and reliability of research instruments a pilot study was carried out in 3 ECDE Centres in Baringo County. These schools were selected purposively to ensure that they bear the same characteristics as the schools in the study area. The researcher chose schools in Baringo County to control the “halo influence” and to widen the applicability of the study (Kombo & Tromp, 2006). The tests were done so as to establish whether the terms used resonated with teachers’ opinions. The feedback obtained from the pilot activity helped the researcher in correcting the questionnaires to ensure that they answered the study’s research questions adequately.

Piloting ensured as much as possible that the items would elicit and give the kind of responses the researcher intended to get and that they were acceptable in terms of their content (Mugenda, 2008). The researcher also verified their content for accuracy, consistency and ensured that unclear information was removed while deficiencies and weakness were noted and corrected in the final instruments (Creswell, 2014). This ensured simplicity and suitability of the items.

3.9.2 Validity

Validity refers to degree to which evidence supports any inferences a researcher makes based on the information collected using particular instrument (Kothari, 2012; Fraenkel, Wallen & Hyun, 2012). In this study, two types of validity were tested: face validity and content validity. Face validity refers to the likelihood that questions in an instrument were understood. Items found to be unclear or ambiguous were modified

thereby improving face validity. The researcher tried and made sure that multiple methods used for data collection triangulate each other (Creswell, 2014). McMillan and Schumacher (2010) accentuate that validity of qualitative research instrument can be ascertained by using multi-method strategies that would allow triangulation in data collection and data analysis. In light of this assertion, in this study a combination of observation checklist, questionnaires and interviews was used to collect and analyze data.

Content validity refers to whether a research instrument provides sufficient information about the study topic. Expert opinions literature searches and pre-testing of open-ended questions were used to improve the content validity. The questions in the questionnaire were brainstormed with colleagues and there after necessary corrections were made. Consequently, the instruments with guidance from the supervisors and the results of pilot study on open-ended questions helped in the improvement of the content validity. The questionnaire for this study was given to two supervisors and three experts to review its content validity.

The Content Validity Index (CVI) was used to quantify the content validity. Expert panel was purposefully selected, using the supervisors and expert from the department. The most important criterion for selection was for a high level of expertise with self-management support. A number of 5 experts were selected. The researcher requested them to assess the content validity looking at the number of questions that were valid in two sections. For instance, Section B had 23 questions while Section C had 22 questions, leading to a total of 45 questions that were validated. The content validity index (CVI) was calculated using the formulae below:

$$CVI = \frac{\textit{Total number of valid questions}}{\textit{Total number of questions in the questionnaire}}$$

Table 3.3 shows the results of the content validation process.

Table 3.3 Content validity result

	Total No. of questions	Exp 1	Exp 2	Exp 3	Exp 4	Exp 5	CVI	Decision
Section A	23	21	22	20	19	20	20.4 0.8870	Valid
Section B	22	22	18	19	17	21	19.4 0.8818	Valid
Total	45	43	40	39	36	41	39.8 0.8844	Valid

Key: *Exp-Expert (there were a total of five experts).*

Table 3.3 result shows that the average CVI was 0.884 for the items measured in the questionnaire. Based on the figures above, the research instruments were deemed to be valid. According to Shi, Mo and Sun (2012), when the total number of experts is ten an item must achieve the least approval of eight research experts. The CVI was computed by averaging the CVIs. In addition, according to Polit and Beck (2014), the S-CVI should be 0.80 or higher. A copy of content validity index rating scale appears in Appendix V.

3.9.3 Reliability of the Research Instruments

Reliability refers to the degree to which the instrument yields the same results on replicated trials (Gall, Borg & Gall, 2007; Khan, 2008; Orodho, 2012). It is therefore the degree of consistency or whether it can be relied upon to produce the same results when used in two or more attempts to measure theoretical concepts. Reliable measuring tool need not be applicable (Kothari, 2012). Triangulation in qualitative research gives greater perspective and allows for more credibility in one's findings. When the findings from data sources and methods congregate, one has more confidence in them, when they diverse, this presents an opportunity to take a closer look at all data to gain a better awareness of the phenomenon being studied (Eileen, 2010).

To ensure reliability of the questionnaire, a pilot study was carried out in neighbouring Baringo County in Baringo East Sub County. This area was used for piloting because they shared similar characteristics and conditions. The primary schools in which the pilot study was conducted were not included in the final study. These schools were carefully selected to ensure that they had similar conditions to the schools in which the study was conducted. The data was collected from three schools in Baringo and a total of 20 ECDE teachers participated in the research.

After receiving the research instruments from the piloted teachers, split half method was used to determine a reliability index. In the split half technique, instruments items were split in half, and a correlation procedure was performed between two halves. The scores on one half of the test were compared with the scores on the second half. The higher the correlation between the two scores, the greater was the reliability. In this case, questions on odd numbered questions were compared with even numbered questions. Question that had open ended questions were omitted during the computation. The researcher assumed that the respondent consistently responded throughout a measure and therefore demonstrated consistent scores between the two halves.

The computation split half reliability was aided by Statistical Package for Social Sciences computer software. After making the entries for all number of questionnaires, a Cronbach alpha test was the statistical procedure used to examine the extent to which all the items in the two set of questions measured the same construct. A co-efficient alpha of 0.84 was obtained for the two sets of data. Table shows the coefficient results for the two sections that were studied.

Table 3.4 Reliability statistics

Reliability Statistics : Odd Numbered Questions	
Cronbach's Alpha	N of Items
0.823	21
Reliability Statistics : Even Numbered Questions	
Cronbach's Alpha	N of Items
0.864	20
Average reliability scores for the two sets of data	0.835

Source: Field data (2015)

This coefficient alpha was considered acceptable as Kothari (2012) indicates that a reliability value index of 0.6 and above is adequate and preferable for descriptive research. In addition, Oluwatayo (2012) suggested that a reliability index of 0.80 and above is considered ideal for the study.

3.10 Data Collection Procedures

The researcher obtained a research approval authorisation letter from University of Eldoret to facilitate acquisition of permission to carry out the study. Once the research proposal was approved, a research permit from the National Commission for Science Technology and Innovation (NACOSTI) was obtained. Then the researcher, proceeded to the County Educational Officer West Pokot County to seek the consent to conduct the research. Once the permission was granted, the researcher arranged to visit each of the 41 public ECDE in West Pokot County for familiarization purposes and to seek permission from the head teachers prior to data collection process.

The questionnaire was administered by the researcher and with the assistance of two research assistants who were adequately trained on how to approach respondents and even all ethical considerations pertaining research. The researcher accompanied them to each school to assist in administering research instrument. Respondents were informed about the purpose of study and were assured of confidentiality of their

responses. The researcher then visited the respective selected schools to obtain samples of teachers and head teachers. The schools were chosen to represent different areas in the county. Some schools were far from the town centres; some were in the centre of town; and others were in the outskirts of the town; while others were in the interior in some areas where there were no public means of transport. Teachers were given questionnaires and interviews conducted with head teachers.

The interview process was conducted in 35 primary schools with the head teachers who agreed to spare their time to take part in the study. The interviews were conducted in the head teachers' offices which took approximately 20-30 minutes for one interview to be concluded. In some cases, the arrival of parents and other guests prompted the researcher and the interviewee to reschedule the interview to a later date. Moreover, during the interview, some head teachers did not possess or have information on how learning was progressing at ECDE centres and this made it difficult for them to explain how various child-centred approaches were being used in the teaching and learning activities in the schools. Another experience in the field was that most head teachers decided not to be recorded and the researcher resulted to taking notes.

During administration of questionnaire, the instructions on how to fill the questionnaires were carefully explained to the respondents. Sufficient time was allowed for them to respond to the instrument accurately. The researcher used various techniques to observe and record different strategies used by both teachers and learners. Selected teachers were observed as they conducted lessons in various schools. The researcher conducted classroom observation in 41 ECDE. . Kothari (2012) indicates that once the researcher has decided to investigate a specific group,

or organization by means of participant observations, he/she has to obtain permission of the group members or their representatives.

At the beginning of the class, learners were told about the purpose of the presence of the researcher. Then at the end of the lesson, the researcher was asked to say a few words of encouragement to both the learners and the teacher. The non-participant observations were carried out in order to find out what strategies were used, how they were applied and what skills were being developed in every day teaching and learning process.

Most ECDE lessons took thirty to thirty five minutes. These classroom observations gave first-hand information about the child-centred strategies applied in the public ECDE centres in West Pokot County. Classroom observation undertaken in classes of different levels was carried out in order to find out: What learner-centred strategies were used in the teaching and learning process; how these methods were applied and what skills were acquired from them; the teachers' and learners' roles in the teaching and learning process and general emerging issues that were addressed in the teaching/ learning process. Use of lesson observations made it possible for the researcher to see and experience first-hand information on how various teaching and learning activities were conducted in public ECDE centres in West Pokot County.

3.11 Data Analysis Procedures

Data collected from the field was analysed using quantitative and qualitative methods.

3.11.1 Analysis of Data from Questionnaires

Once the questionnaires were collected by the researchers, the data was coded and fed into the SPSS computer software and analyzed. Initially, screening of data was done

using sort functions. The data from the open-ended items in the questionnaire and the semi-structured items in the interviews was transcribed and qualitatively analysed using thematic approach and merged with quantitative data during interpretation and presentation. To begin with, the transcripts were put into a form. Then the researcher read and re-read them to familiarize with the data and finally made a list of different types of information.

Data presentation was organized according to the objectives and research questions of the study. Statistical Package for Social Sciences (SPSS) assisted in data coding, entry and analysis. Quantitative data was analysed using descriptive statistical techniques. The researcher used inferential statistics, Karl Pearson Product Moment Correlation to show the relationships between the variables. The probability level was set up at 0.05 and 0.01 significance levels. The use of correlation analysis was to test the hypothesis for the study.

3.11.2 Analysis of Data from Interviews

The data obtained from the interviews comprised of qualitative data. According to McMillan and Schumacher (2010) and Anderson et al, (2007) qualitative data analysis is an inductive process of organising data into categories and identifying patterns and relationships among the categories. Interviews were basically transcribed and qualitatively analysed through themes. This involved discovering themes in the interview transcripts and attempting to verify, confirm and qualify them by searching through data. The procedure is then repeated to identify further themes, which are then categorized and reported in verbatim transcription to supplement explanation of quantitative information in frequency tables and charts.

3.11.3 Analysis of Data from Observation

As the researcher observed various lessons in ECDE, she compared her observations in various lessons as she drew final conclusions based on objectives of the study. Data gathered by observation checklist was also presented in narratives according to various themes of the study. The researcher finally reviewed the data again to locate additional evidence backing up each theme as the researcher compared general themes across all data sources while creating broader consistent themes.

3.12 Ethical Considerations

Ethics is concerned with right and wrong (Ogula, 2009; McMillan and Schumacher, 2010). Research ethics is a system of accepted behaviour that researchers ought to show when designing and conducting research. Kothari (2014) observes that that some types of research can have psychological or emotional effects on the participants. To avoid this, ethical issues were dealt with in this study. Ethics are norms of conduct that differentiate between acceptable and unacceptable behaviours in research. A number of ethical issues can arise during the academic research writing process. These include confidentiality, plagiarism, informed consent, anonymity, falsification of data, treatment of human subjects and animals in research and authorship issues (Hammersley & Traianou, 2012).

This study followed various ethical consideration procedures. First, upon approval of the research proposal, an introductory letter was obtained from University of Eldoret that enabled the researcher to secure a permit from the National Commission for Science, Technology and Innovation (NACOSTI) for the purpose of conducting research in the ECDE Centres in West Pokot County. When the permission was granted, the researcher sought appointment with County Director of Education in

West Pokot County and the head teachers of the selected schools. The researcher took into account the influences of the research on teachers and head teachers and acted in a way that protected their decorum. Risks were minimised by informing the participants about the purpose of the study, by giving them an opportunity to ask questions in relation to the study and by asking the respondents to sign consent form.

In this study, the researcher assured all the teachers and head teachers that the information given was meant for academic purposes only. This was done to ensure honesty of information given and also to enhance the process of data collection (Depoy & Gitlin, 2011). The researcher assured the participants that nobody would access the information obtained, moreover, no names or personal identification numbers were reflected in the questionnaire. The numbering of the questionnaires was for ordering purpose only. This research respected time set aside for instructional purposes in the schools and did not interfere with any classroom routines or procedures. No published data related to this research identified participants by name. All participants were informed that they were free to withdraw from the study at any time although none of them withdrew.

3.13 Chapter Summary

This chapter dealt with a discussion of the research design and methodology that guided the study. Aspects such as the research design, population and sampling, data collection and data analysis procedures were discussed. The preference focusing the mixed research methodology was also explained together with ethical considerations.

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS, INTERPRETATION AND
DISCUSSION

4.1 Introduction

In this chapter the findings of the study are analysed, presented, interpreted and discussed. The purpose of this study was to find out the utilisation of child-centred approaches and their influence in teaching and learning activities in public ECDE in West Pokot County. Data presented in this chapter was obtained from ECDE teachers' questionnaire, interview responses from head teachers and from lesson observation. This chapter opens with a section on response rate, demographic description of the respondents followed by the data analysis, presentation, interpretation based on the research objectives.

4.1.1 Response Rate

The participants of this study were head teachers and teachers in public ECDE centres in four sub counties within West Pokot County. Table 4.1 shows the response rate for the study.

Table 4.1 Response rate

Respondents	Data Collection Instrument	Sample size	Response	Response rate
i Head teachers	Interviews	41	35	85.36%
ii Teachers	Questionnaires	168	157	93.45%
Total		209	192	

Table 4.1 shows that the response rate for head teachers was 35 (85.36%) while for teachers were 168 (93.45%). These statistics are acceptable because Saunders *et*

al,(2007) indicate that 30 to 50 % response rate is reasonable enough for statistical generalizations. Moreover, Mugenda (2008) opine that a response rate of 50% is allowed for analysis; a response rate of 60% is good and a response rate of 70% and above is very good.

4.2 Demographic Description of Participants

The demographics of participants are described in this section and they include gender, work experience of teachers and their highest level of education.

4.2.1 Distribution of Teachers by Gender

Data was sought on the gender of the respondents. This was done to ascertain that respondents were normally distributed between the two genders because in this study, none of the gender was given preferential consideration in the selection of respondents. Taking this into consideration, the study deemed it important to establish the gender of the respondents. Table 4.2 illustrates the study results.

Table 4.2 Distribution of teachers by gender

Type	Frequency	Percent
i Male	37	23.6
ii Female	120	76.4
Total	157	100.0

Based on the results on Table 4.2, most of the ECDE teachers 120 (76.4%) were females and 37 (23.6%) were male. The findings coincide with Nguku's (2015) study in Yatta Sub County in Machakos that showed that 62.5% of the teachers were female while 37.5% were male. The findings are an indication that females have a higher preference to teach in ECDE than male teachers. Also in a research conducted in Nyamira County by Moraa (2014) found out that 65.5 % of English teachers were

females and 35.5% were males. This shows that most schools are dominated by teachers of one gender. However, achieving equal representation was not considered to be critical in this situation. The results also are similar to Nyangeri's (2014) study in Kitale town who found out that all the pre-primary school teachers were females. This could be because of ECDE is considered a domain for women and due to cultural beliefs that child care is a responsibility of women. From the above findings it can be inferred that female teachers get attracted to the ECDE profession more than male teachers.

4.2.2 Distribution of Teachers by Experience

According to Popoola (2014), teacher's experience has an impact on teaching. The teaching experience of a teacher enables the teacher to interact more freely with the children especially during activity times (Beard & Wilson, 2006). Ideally, one would expect more experienced teachers to have better classroom interaction (Madlela, 2014). Therefore, the teachers were asked to indicate their teaching experience. Table 4.3 illustrates the results.

Table 4.3 Distribution of teachers by teaching experience

Experience	Frequency	Percent
i 1-5 years	27	17.2
ii 6-10 years	62	39.5
iii 11-15 years	68	43.3
Total	157	100.0

As shown in the Table 4.3, 68 (43.3%) of the respondents had a teaching experience of 11 to 15 years, 62 (39.5%) of them had an experience of 6 to 10 years and 27 (17.2%) of the respondents had an experience of 1 to 5 years. This implied that most of the teachers had a long teaching experience. Therefore, it can be inferred that the

teachers were expected to be providing quality teaching in the ECDE centres based on their experience. The findings coincide with Nyangeri's (2014) results from Kisii County that showed 10.7% of the pre-primary school teachers had a teaching experience of between 0 to 5 years while 89.3% of the teachers had a teaching experience of six years and above.

In a study by Murundu, Chisikwa, Indoshi, Okwara and Otieno (2012) on teacher based factors influencing the implementation of ECDE curriculum in Gem Sub County, the results revealed that 4.6% of the teachers had a teaching experience of less than 2 years, 23.1% had a teaching experience of 2 to 5 years, while the remaining teachers (72.3%) had a teaching experience of five years and above. Similarly, a study by Moraa (2014) in Nyamira County found out that most teachers had substantial teaching experiences which enabled them to handle the curriculum implementation process. From the above results and discussions, it appears that most teachers were experienced and this was important in the study purpose of finding out teacher Utilisation of child-centred approaches in teaching and learning activities in ECDE centres in West Pokot County.

4.2.3 Distribution of Respondents by Level of Education

The ECDE teachers are entrusted with massive responsibility of helping children to grow physically, emotionally and socially. The training of teachers plays an important role in an educational system, since teachers are central to the change process (Ahmed & Aziz, 2009; Rotumoi & Too, 2012). According to the extent and quality of the professional preparation a teacher receives will affect both the quality and style of his/her teaching.

The researcher therefore sought to establish the highest level of academic qualification of the respondents since teachers' qualification affects the way they teach and invariably student performance. The options that were provided in this item were: high school; certificate; diploma; bachelor's degree; and post graduate degree. Table 4.4 shows the result.

Table 4.4 Distribution of respondents by level of education

Education	Frequency	Percent
i Certificate	76	48.4
ii Diploma in ECDE	63	40.1
iii P1	18	11.5
iv Degree	0	0.0
Total	157	100.0

Findings in Table 4.4 show that 76 (48.4%) of respondents were holders of a diploma in ECDE, 63 (40.1%) were certificate holders in ECDE, 18 (11.5%) had P1 level of education and none of the teachers were found to possess degree level of education. Information from head teachers during interviews showed that most schools had teachers who were certificate holders with a few having diploma certificates. From the study most of the ECDE teachers had acceptable academic levels of education for teaching ECDE children. These findings concur with a study conducted by Nguku (2015) in Yatta Sub County that established that most of the pre-school teachers had undergone the required training to enable them effectively implement the preschool curriculum.

A number of them had also acquired additional professional training. However, the situation is different in Trans-Nzoia County where Nyangeri (2014) found out that most of the pre-primary school teachers highest qualification was KCSE certificate.

These qualified teachers in ECDE are therefore expected to possess knowledge and skills on use of child-centred approaches in teaching and learning activities in pre-schools.

Moreover, Lai (2008) argues that implementation of curriculum is greatly affected by teachers' academic qualifications. This is revealed by a study by Lyabwene (2010) in Tanzania that indicated that issues of pre-primary school teachers' professional qualifications affected the quality of classroom interaction hence significantly impacting on teaching and learning approaches. This is because teachers who have undergone ECDE training are more enlightened on such important educational issues like the curriculum of the ECDE program, philosophy of education, sociology of education and educational psychology. The findings therefore implied that most ECDE teachers in West Pokot County were well qualified to apply child-centred teaching approaches in teaching and learning activities in schools.

The most convenient way of assessing whether teaching in ECDE is friendly and relevant to the child is through the teaching and learning approaches. Techniques and methods used by teachers in teaching and learning are vital in promotion of self-mastery of skills and concepts especially at this tender age (Sonia, 2006). Deliberations by experts in training, underlies the importance of play for psychosocial stimulation and effective cognitive development of children (URT, 2008). This implies that for the child to thrive and reach his full potential it is crucial for teachers/caregivers to have proper knowledge and skills on how to harness children's play behaviour to enhance both stimulation and smooth adaptability in teaching and learning activities (Tarimo, 2013).

4.3 Utilisation of Child Centered Approaches in ECDE Centres

This section focuses on the degree to which child-centred approaches were utilized in teaching and learning activities in ECDE centres. The findings presented in this section were obtained from teachers, head teachers and from the observations.

4.3.1 Utilisation of Child Needs Approaches

The study sought to establish the frequency to which ECDE teachers in West Pokot County utilised child needs approach during teaching and learning. Therefore, the teachers were asked to indicate the frequency to which they applied child needs approaches in teaching and learning activities in their classrooms. They were asked to give their responses on Likert scale of five; Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A). Table 4.5 illustrates the results.

Table 4.5 Utilisation of child needs approaches in ECDE centres

Response		N	R	S	O	A	M	SD
a I take every opportunity to have individual conversations with learners	F	2	8	25	74	48	4.01	.888
	%	1.3	5.1	15.9	47.1	30.6		
b I pay attention to a child who is telling me something	F	3	5	41	39	69	4.06	1.002
	%	1.9	3.2	26.1	24.8	43.9		
c I maintain supervision and awareness of what is going on around while at the same time engaging with the child	F	1	4	47	105	0	3.63	.569
	%	.6	2.5	29.9	66.9	0		
d I spend time just watching learners interact with others and engage with the material	F	0	2	84	55	16	3.54	.693
	%	0	1.3	53.5	35.0	10.2		
e I make notes so that I can remember and make constructive use of the information	F	4	3	88	54	8	3.38	.729
	%	2.5	1.9	56.1	34.4	5.1		
f I listen to learners conversations	F	4	5	109	31	8	3.22	.701
	%	2.5	3.2	69.4	19.7	5.1		

Key: *N* = never, *R* = Rarely, *S* = sometimes, *O* = often, *A* = always, *M* = Mean and *SD* = Standard deviation

On Table 4.5, the study was to establish if ECDE teachers took every opportunity to have individual conversation with their learners, the results shows that, 2 (1.3%) never did, 8 (5.1%) rarely did, (15.9%) sometimes took every opportunity to have individual conversation with learners, 74 (47.1%) often do it and 48 (30.6%) of the respondents ascertained that they always take every opportunity to have individual conversations with learners.

The average scores were ($M= 4.01$ and $SD = 0.88$) suggesting that teachers often take every opportunity to have individual conversation with learners in ECDE centres. This is important to children learning as evidenced by Tarimo (2013) study in Tanzania (Mwanga District) who established that teacher serve as a bridge between children's initial understanding of a concept or event and their deeper understanding as a result of direct experience with that concept or event. Therefore, it is important that ECDE teachers enhance individual communication with learners in their classroom rather than conversation with a group of learners or the whole class.

Secondly, ECDE teachers were asked whether they paid attention to a child who is telling them something in class, 3 (1.9%) of teachers confirmed that they never paid attention, 5 (3.2%) rarely paid attention, 41 (26.1%) said they sometimes paid attention, 39 (24.8%) said that children often paid attention and 69 (43.9%) of the respondents always paid attention. The computed descriptive statistics were ($M= 4.06$ and $SD= 1.002$) which showed that teachers occasionally paid attention to their learners who wished to tell them something. This implies that the teaching approach that teacher uses makes them to be alert and therefore concentrate in understanding concepts. These findings are in agreement with Kember and David (2009) research in Canada who found out that when using child-centred approach, teachers can extract

factual information from learners, and also help learners to connect concepts, make inferences, think creatively, and imaginatively, think critically, and explore deeper levels of knowing, thinking and understanding. Similarly, Weimer (2010) observed that when instruction is learner-centred, the action focuses on what students (not teachers) are doing. During interviews, one head teacher remarked that in using child needs approach:

...learners are free to show their understanding of the topic, and they can discuss and practice it.

This shows that teachers' listening to their learners is key when applying child needs approach as reported by the headteachers. Furthermore, teachers expressed that child-centred methods required learners to take responsibility of their own learning and therefore become self-motivated. This is in agreement with Wright's (2011) views that child-centred approach acknowledges child voice as central to the learning experience.

Learners choose what they will learn, how they will learn, and how they will assess their own learning. Similarly, Jones (2007) study in United Kingdom found out that a child-centred teacher tries to create an environment that will motivate the learners to discover new skills and knowledge. From the above view, it is clear that teachers in developed countries pay more attention to their learners compared to ones in West Pokot County. This may have significant effect in teaching and learning process.

In determining whether ECDE teachers maintained supervision and awareness of what was going on around while at the same time engaging with the child, study findings revealed that only 1 (0.6%) of teachers said that they never maintained supervision, 4 (2.5%) rarely maintained supervision, 47 (29.9%) of teachers

sometimes maintained supervision and were aware of what was happening around and 105 (66.9%) said that they often maintained supervision and awareness of what was happening around while at the same time engaging with the child. The average mean was 3.63 with standard deviation values of 0.569 which showed that majority of teachers in West Pokot County occasionally maintained supervision and awareness on what was happening around while at the same time engaging with the child. This implied that teachers often maintained supervision and awareness on what was happening around while at the same time engaging the child.

When teachers regularly supervise their learners, they maintain track of their academic progress. These findings are in line with Pickup, Haydn-Davies and Jess (2007) argument that child-centred approach builds on existing knowledge and understanding, values the role of skilful observation and task design, and is based on methods that emphasize on the holistic views of early childhood education.

When asked the extent to which ECDE teachers spent time just watching learners interact with others and engage with other materials, 2 (1.3%) said they rarely spent time with learners, 84 (53.5%) of ECDE teachers stated that they sometimes spend time just watching learners interact with others and engage with the material, 55 (35.0%) did it often and only 16 (10.2%) of teachers always watched learners interacting with others and engaging with instructional materials. The findings suggests ($M=3.54$ and $SD=0.693$) that teachers occasionally spend time watching learners interacting with others. This showed that this is a common practice of child needs approach in ECDE centres in West Pokot county. These findings coincided with Ronkko and Aerila (2015) study in Finland that showed that when pre-school learners concentrated on a joint subject and story, it enhanced their children's

motivation and their enthusiasm while facilitating group discussions and so enabling the children to learn from others.

The ECDE learners liked comparing their own stories, designs and craft products with others and a common background story gave them a common experience to help connect the individual experiences together. This is similar to the study findings in Jennifer's (2006) study from Virginia, United States that established that classrooms discussions between teachers and learners can be extremely effective in changing behaviour and attitudes of learners. Jennifer emphasised that through classroom discussions, learners developed confidence and self-esteem, problem solving and critical thinking skills. Barnett (2010) Say that classroom discussions are also seen by as enabling teachers to articulate a position in an informed opinion when teaching.

Through researcher observation in a classroom where teachers were using child needs approach, the learners reacted to the entire process with open mind and were enthusiastic during all the stages of the task. This attempt by teachers to allow learners to participate in group work and interact with others coincide with Piaget socio-cognitive theory which suggested that as learners interact directly with others, they become strongly motivated as they reconcile differences. Learners understand their peers' ideas as they are more personal and less threatening than their teacher's ideas. In addition, from a constructivist view, Madlela (2014) informed that learners' mental functioning develops first at the interpersonal level as they learn to internalise and transform the content with others. This becomes important in the development of new understanding and skills.

To find the frequency at which ECDE teachers made notes so that they could remember and make constructive use of the information, from the results, 4 (2.5%) of

teachers never made notes, 3 (1.9%) rarely made notes, 88 (56.1%) of the teachers stated that they sometimes made notes, 54 (34.4%) of them often made notes and 8 (5.1%) of teachers always made notes.

From the above data, it is evident through descriptive statistics computation results ($M=3.38$ and $SD =0.729$) that sometimes teachers made notes. This implied that most of teachers in ECDE centres in West Pokot County do not regularly make notes for future use or for confirmation purposes. The reason could be attributed to lack of supervision on teacher preparation. Githinji and Kanga (2011) found out that Quality Assurance Standard Officers (QUASO) is not adequately equipped to handle inspection and assessment of ECDE services and this affected curriculum implementation.

On the last statement, 4 (2.5%) never listened to children conversations, 5 (3.2%) rarely listened to conversations, 109 (69.4%) of ECDE teachers sometimes listened to learners conversations, 31 (19.7%) often listened to the learners' conversations and only 8 (5.1%) of the respondents always listened to learners' conversations. The computed mean was 3.22 and standard deviation of 0.701 suggesting that ECDE teachers sometimes listened to conversations of learners while teaching which aids their communication competencies.

The results coincided with Davidson, Walters and Elizabeth (2015) study in United States who found out that those learners who were exposed to an environment rich in vocabulary and supportive of verbal interaction with teachers developed a greater facility with language than those who missed such opportunities. Based on the findings, it is evident that most of ECDE teachers in West Pokot often used ($M=3.64$ and $SD=0.764$) child-needs approach in classrooms.

The researcher further conducted an observation of how frequent teachers were using child-needs approach in 41 schools. The findings are presented in Table 4.6.

Table 4.6 Observation of child needs utilisation approaches

Statement	Never	Rarely	Sometimes	Often	Always
a Frequency to which learners wrote notes	0	0	25	10	6
b Pupil being good listeners	8	5	22	3	3
c Learners being good observers	2	4	7	10	17
d Teachers spending time with learners	0	6	5	21	10
e Teachers supervising learners	2	8	16	5	10
f Teacher aware of learners needs	0	4	3	25	9

From the findings from the observations on Table 4.6 it's indicated that most teachers in 25 schools were often aware of the needs of their learners and they spent time with learners in classrooms. However, it was found out that teachers rarely supervised learners and learners were not good listeners. This was due to overcrowding in classrooms where some classrooms had more than 40 learners making it difficult for teachers to monitor and evaluate each pupil's daily progress.

The findings of the observations are in agreement with ILO/UNESCO (2015) report that showed that teachers in public pre- primary schools used child-centred teaching methods. This increased the potential of learners to perform better in academics than situations where their teachers used teacher-centred methods. The same response was recorded during interviews with head teachers who said that their teachers use child-centered approaches as one head teacher said that:

“I encourage teachers in my school to use teaching methods that involve learners. This has enabled progression and transition of learners from ECDE to primary section.”

Another school head remarked that:

“I regularly conduct monitoring and inspection to check and assist teachers on how to utilise learner centred methods during teaching.”

From the above responses, it can be seen that efforts are being made by public ECDE centres to transform learning from teacher-centred to child centred.

4.3.2 Utilisation of Child Interest Approaches

The second child-centred approach that ECDE teachers are required to use to improve teaching and learning process in schools is through use of child-interest approach. Therefore, the teachers were asked to indicate the frequency to which they utilised various methods of child-centred approach in teaching and learning process through a Likert scale questions of five; never (N), rarely (R), sometimes (S), often (O) and always (O). Table 4.7 illustrates the results.

Table 4.7 Utilisation of child interest approaches

Statement		N	R	S	O	A	M	SD
a I select teaching and learning material which learners shows interest	F	6	7	75	62	7	3.36	.802
	%	3.8	4.5	47.8	39.5	4.5		
b I assess new learners first interest first before commencing my lesson	F	4	8	95	40	10	3.28	.767
	%	2.5	5.1	60.5	25.5	6.4		
c I like teaching using what learners like when at home	F	6	4	88	45	14	3.36	.833
	%	3.8	2.5	56.1	28.7	8.9		
d I use decorative activities in classroom teaching	F	5	2	65	71	14	3.55	.804
	%	3.2	1.3	41.4	45.2	8.9		
e I give the opportunity for learners to learn what they like	F	4	9	92	42	10	3.29	.777
	%	2.5	5.7	58.6	26.8	6.4		

Key: *N = never, R= Rarely, S= sometimes, O=often, A= always, M=Mean and SD-Standard deviation*

In Table 4.7, the teachers were asked how frequent they used or selected teaching and learning materials which learners showed interest. 6 (3.8%) of teachers confirmed that they never selected instructional materials, 7 (4.5%) rarely selected, 75 (47.8%) sometimes used teaching and learning materials which learners showed interest, 62 (39.5%) often selected materials which learners showed interest and 7 (4.5%) always selected instructional resources that raised learners interest. The calculated mean was 3.36 with standard deviation values of 0.802 showing that teachers sometimes selected teaching and learning materials that showed learners interest.

The irregular use of learning resources that attracted learners' interest could be due to their non-availability in the learning centres. The above results agrees with Lynne's (2007) study in United States of America who found out that the utilisation of child-centred learning emphasizes each student's interests, abilities, and learning styles,

placing the teacher as a facilitator of learning for individuals rather than for the class as a whole.

Still in United States of America, Crumly (2014) argued that promoting development that is guided by the best interests of the child and oriented towards realizing the rights of learners ensures sustainable human development. The inadequacy of educational activities were found to affect teaching and learning in Tanzania pre-schools as noted by Tarimo (2013). Educational facilities and instructional materials are essential because they make teaching more effective and meaningful; increases learners motivation and concentration span and simplifies concepts taught. Lack of instructional materials could negatively affect the learning process as teachers will not have a variety to select from. This could be highly detrimental especially to children in ECDE who need a variety of materials to reinforce or capture new experiences.

Moreover, the study sought to find out whether the ECDE teachers assessed new learners first before commencing their lessons. 4 (2.5%) said that they have never assessed learners, 5.1% rarely assessed new learners, most 95 (60.5%) of teachers said that they sometimes assessed their learners, 40 (25.5%) often assessed new learners and 10 (6.4%) always evaluated learners interest before commencing a lesson. The obtained mean was 3.28 with standard deviation value of 0.767 suggesting that teachers sometimes assessed new learners before commencing their lessons. This showed that teachers do not always check or assess new learners before they are admitted to various classes in public ECDE centres in West Pokot County. Blumberg and Everett (2008) contended that in relation to curriculum design, child-centeredness includes the idea that learners have a choice in what to study and how to study it by assessing them first. Vavrus et al, (2011) survey of several Sub Saharan African countries saw the need for teachers to

conduct formative assessment. This helped teachers to estimate learners' prior knowledge of a topic before commencing on a new unit to determine the most appropriate level at which to begin and to help ensure learners are engaged with materials that are not too easy or too difficult to them. The researcher however, found out that overcrowded classrooms prevented learners from moving their desks into groups and hindered teachers from doing inquiry based activities that required students to move about the classroom. This justifies the need for teachers to assess learners understanding of past lessons before starting a new lesson or topic.

In order to establish if the ECDE teachers preferred teaching using what learners liked when at home, 6 (3.8%) of teachers said that they had never taught what learners preferred when at home, 4 (2.5%) said that they rarely taught what learners liked at home, more than half 88 (56.1%) of the teachers said that they sometimes taught what learners liked when at home, 45 (28.7%) of teachers often taught what learners liked when at home and only 14 (8.9%) of teachers always taught using what learners liked when at home. The computed mean was 3.36 and standard deviation value of 0.83 which showed that teachers sometimes taught what learners loved when at home. This involves use of items or examples with similarities with what can be found in their respective homes.

The results coincides with Matsau's (2007) study in Lesotho that found out teachers perceived that through the use of the learner-centred approach there was a shift from formal to informal learning. In formal, learning teachers are usually in control and learners are always restricted while in informal learning the teachers provide guidance and learners are free to obtain learning from other sources like home as evidenced from the research results. Similarly in Kenya, Wangui (2011) established that teachers

were also aware of the need to use materials and objects that make learners interested. This showed that in West Pokot County pre-schools, teachers incorporated both formal and informal learning situations. This shows that there have been efforts by stakeholders: parents, education officers and other policy makers to stress on the need for teachers to consider learners input during instruction to promote the use of child-centred approaches.

On establishing whether the teachers made use of decorative activities in classroom teaching, 5 (3.2%) of teachers confirmed that they never used decorative activities, 1.3% rarely utilised decorative activities, 41.4% sometimes used decorative items in classroom, 45.2% often used them while 8.9% of teachers always used decorative objectives in teaching and learning. The mean value for the finding was 3.55 with standard deviation scores of = 0.8049. This implies that teachers often used decorative activities to impress and get learners attention during teaching. In agreement with the study findings, Pollanen (2011) study in Finland found out that teachers' use of decorative activities also aids learners in cognitive development and helps them to understand and reason quickly.

In Lesotho a study finding by Matsau (2007) supported this result indicating that use of decorative resources enabled learners to construct new meanings about important problems, concepts and issues. In addition, a study done in South Africa by Madlela (2014) suggested that if the child-centred approach was to be effectively implemented in classrooms successfully a lot of resources which are decorative in nature are needed. The use of decorative resources in classrooms helps learners to plan and evaluate the thinking processes they can use to gather information, attempt to solve

problems, and to make decisions rather than the teacher only. These learner-centred methods enabled learning rather than restricting it.

When respondents were asked whether they gave the opportunity for learners to learn what they liked, 4 (2.5%) of teachers said that they did not, 9 (5.7%) rarely gave learners opportunity, most 92 (58.6%) sometimes gave learners opportunity to learn what they wanted, 26.8% often gave learners a chance to study what they preferred and only 10 (6.4%) of the teachers always gave opportunity for pre-school learners to learn what they liked. The results showed that teachers sometimes ($M=3.29$ and $SD=0.77$) allowed learners to give their suggestions on what they preferred to be taught in classroom. In a research in Tanzania, Tarimo (2013) underscores this by indicating that teachers have to allow children to participate freely in activities of their own choice and also have to organize instructional materials at free choice activity corners to ensure they acquire necessary competencies.

Kember et al, (2009) accentuated that Socrates believed that to teach well, teachers must reach into a learner's prior knowledge and awareness in order to help the learner to reach new levels of thinking. This means that the teacher can use questions to draw from and build on students' prior knowledge and experiences to help them to develop deeper understanding of the topic. Moreover, Dewey reiterated that learning best occurs when individuals can make their own meaning by sharing their experiences with others through collaborative interactions. McClelland (2010) further support the study results by reporting that effective learning occurs when learners can create meaning by linking new information to what they already know. This helps in generating new combinations of knowledge which bring about personal meaning and perspective.

In general, the use of child-interest approach by ECDE teachers in West Pokot County was found to be taking place ($M=3.37$ and $SD=0.797$). It has been established that teachers sometimes used decorative activities in classroom teaching, use/select teaching and learning materials which learners shows interest, assess new learners first before commencing their lessons and sometimes teach using what learners like when at home.

However, teachers did not allow learners to choose what they wanted to read and it was not a common practice for teachers to give learners an opportunity to learn what they liked. Teachers are therefore challenged to engage learners actively in the learning process. The findings are in contrary to a study done in United States of America by MacHemer and Crowford (2007) who found out that child-centred approach puts the pupil at the centre of learning and teachers are no longer supposed to transfer facts into passive learners' heads but rather facilitate their discovery of relevant information.

As a result, teachers rarely stand in front of the class and teach a lesson. Instead, activity centres may be set up around the room with the learners moving from station to station, or learners might be assigned to work together in groups on a project. The researcher made classroom observation on how child discovery method was taught by teachers in the classroom. The results are given in Table 4.8.

Table 4.8 Utilisation of child interest approaches in classrooms

Statement	Never	Rarely	Sometimes	Often	Always
a Teacher selecting learning material that interest learners	0	5	21	8	7
b Teachers assessing learners interest	2	19	13	3	4
c Teachers use what learners like	10	15	8	8	0
d Learners use decorative activities	2	5	15	13	6
e Learners writing a list of what they do	8	12	15	0	0

Results from Table 4.8 of the observation showed that teachers rarely assessed learners' interest and used what they liked. The findings coincide with a study commissioned by UNESCO in Tanzania by Vavrus et al, (2011) that found out that teachers were concerned that learners might question their competence if they begin a lesson by eliciting learners' prior knowledge, and they might be considered an undisciplined teacher if their learners made too much noise during group discussions.

However, the researcher noted that teachers selected learning materials that interested the learners, they at times used decorative activities and they rarely allowed learners to be taught what they wanted. This is in contrast to constructivism philosophical ideals that advocate for teachers role to be a facilitator when using child-centred approaches. The information provided above correspond to why some teachers rarely allowed learners to learn what they wanted as said by one headteacher

“The training that some of our teachers undertook while in college did not favour use this approach that have been advocated long after they left college.”

Another head teacher also explained that:

The use of what a child needs in the classroom is hampered by lack of enough learning resources making teachers to use of alternative means.”

The above findings confirms that occasional utilisation of child needs approaches was due to teachers lack of training/competency in using the methods and inadequate provision of right instructional materials in schools.

4.3.3 Utilisation of Child Discovery Approaches in ECDE Centres

Child discovery approach is a child-centred approach where children are actively involved and participate in tasks (Jennifer, 2006; Pickup et al, 2007). They are led to discover meaning through activities that simultaneously extend their facility with language and understanding of the world (Ahmed & Aziz, 2009; Linder et al, 2010). This made the study to investigate the extent to which teachers used discovery approaches in teaching and learning in ECDE centres in West Pokot County. Therefore, the respondents were asked to indicate the frequency at which they used child discovery approach in teaching and learning through the following Likert scale; of five: Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A). Table 4.9 presents the results.

Table 4.9 Utilisation of child discovery approach

Statement		N	R	S	O	A	M	SD
a I use print work of fine art, such as solar system and encourage learners to study the painting and create their own interpretation of it	f	13	9	96	30	9	3.08	.898
	%	8.3	5.7	61.1	19.1	5.7		
b I allow learners in my class to be self-driven	f	4	15	51	43	44	3.69	1.061
	%	2.5	9.6	32.5	27.4	28.0		
c When reading a story to learners, I pause throughout the story to ask questions about what they believe will happen next	f	9	16	48	47	37	3.55	1.129
	%	5.7	10.2	30.6	29.9	23.6		
d I challenge learners to explore and discover new things	f	5	14	51	44	43	3.68	1.069
	%	3.2	8.9	32.5	28.0	27.4		
e I teach learners using real life experiences as it keeps them joyfully	f	5	12	49	45	46	3.73	1.064
	%	3.2	7.6	31.2	28.7	29.3		

Key: *N* = never, *R* = Rarely, *S* = sometimes, *O* = often, *A* = always, *M* = Mean and *SD* = Standard deviation

Findings in Table 4.9 shows that 13 (8.3%) of teachers said that they did not use print work resources, 9 (5.7%) of teachers also said that rarely used print work of fine art such as solar system, most 96 (61.1%) of teachers used the print work materials sometimes in their classes, 30 (19.1%) often used them and 9 (5.7%) always used print work of fine art in helping learners create their own meaning from different school work activities. The obtained mean value was 3.08 with standard deviation value scores of 0.898 which suggested that most of ECDE teachers occasionally used fine art work instructional resources to teach and encourage learners to study painting on their own and create their own understanding and interpretation in West Pokot

County. The findings are in agreement with Aerila and Ronkko (2015) research in Finland which established that use of fine art and other creative resources helped the teacher and the children to understand their own interpretation and that of others by making visible the inner thoughts prompted by the fictional tale.

Similarly in Lesotho, Matsau (2007) support the above findings by indicating that use of audio-visuals is vital as research has shown that imagery significantly facilitates learning. When coupled with texts, visuals encourage learners to fully think about the process of the language as they help individuals to make sense of the surroundings in daily life (Lai, 2008). Therefore, all visuals provide room for prediction, inference and deduction of information from a variety of sources. An example is that pictures frequently draw a response from learners. This response may not be elicited through other methods thereby being of significance to learners in ECDE.

Secondly, the results of the study showed that 4 (2.5%) of preschool teachers never allowed learners in their classrooms to be self-driven, 15(9.6%) said they rarely allowed learners to be self-drive, 43(27.4%) allowed learners occasionally to be self-driven, 43 (27.4%) often allowed learners and 44 (28.0%) reported to have always allowing learners in their classrooms to be self-driven. This shows that most teachers often ($M=3.69$ and $SD=1.061$) allowed learners in their classrooms to be self-driven and this improves their understanding of concepts.

In support of the study findings Tarimo (2013) research in Tanzania underscored the importance participatory education process that aims to produce cumulative results. Tarimo concluded that for holistic development and learning, children need mental stimulation and plenty of opportunities to exercise and develop their talents. Concurrently with the study findings, Matsau (2007) research in Lesotho established

that learner-centred approach helped learners to be more independent, resourceful, interactive and cooperative as well as enabling them to build interpersonal relationships. From this view, it is clear that when learners are allowed to be self-driven, it helps them to build their competencies in science, mathematics, sciences and creative activities.

For story telling lessons, the respondents were also asked how frequently they paused to ask questions on what they believed would happen in episode that followed. 9 (5.7%) of teachers never paused while teaching 16 (10.2%) rarely paused, 48 (30.6%) sometimes paused, 47 (29.9%) of the teachers often paused and only 37 (23.6%) of teachers always paused during story time to ask learners their responses on what would happen next. This implied that most teachers in ECDE centres in West Pokot County often ($M= 3.55$ and $SD = 1.129$) paused when reading a story to learners and asked questions about what they believed would happen next. The importance of using these instructional resources was emphasised by Aerila and Ronkko (2015) study in Finland who said that stories and other artwork invented by teachers helped to promote learners understanding in classrooms. This helped learners to generate new ideas and establish moral values which are important in their growth and development.

On the frequency of how often teachers challenged learners to explore and discover new things, 5 (3.2%) of teachers never challenged learners to explore and discover new ideas, 14 (8.9%) rarely challenged learners, 51 (32.5%) sometimes challenged learners, 44 (28.0%) of the teachers often challenged learners and 43 (27.4%) always challenged learners to explore and discover new things as part of child discovery learning approach. This implied that most teachers often ($M = 3.68$ and $SD = 1.069$)

challenged learners to discover new things in the classroom. This increased their intrinsic motivation as noted by Matsau (2007) who found out that when teachers in Lesotho allowed learners to discover by themselves, internal motivation became a drive so that learners were encouraged to reach for higher objectives. Teachers' initiative of building learners self-esteem is significant as it supports the learners' ability to create self-confidence through the completion of meaningful work.

Moreover, the study also sought to establish how teachers' instruction using real life experiences kept learners joyful. 5 teachers (3.2%) never taught learners using real life experiences, 12 (7.6%) rarely taught them, 49 (31.2%) used the method sometimes, 45 (28.7%) often used the method while 46 (29.3%) always taught learners using real life experiences. The findings indicate that most teachers often ($M = 3.73$ and $SD = 1.064$) used real life experiences and stories to improve learners understanding of subject taught. The results of the study under child discovery approach reveal that most teachers often ($M=3.31$ and $SD=0.816$) used child discovery approach in teaching ECDE children in ECDE centres in West Pokot County by allowing learners to be self-driven hence learners are challenged to explore and discover new things.

It was also clear that pre-school children are taught using real life examples and given an opportunity to predict what they believed would happen in a given story. As such, learners are actively involved in learning and are more likely to realize their own ideas and creativity while learning. The results tally with the assertion of Wright's (2011) research in United States that affirmed that child-centred approach puts learners' interests' first and acknowledges student as central to the learning experience. The central focus is on learners' autonomy and independence by putting

responsibility on the learner to discover new facts. As put forth by Young (2007), learner-centred theories lay an emphasis on learners' critical role in constructing meaning from new information and prior experiences. In so doing, learners develop positive attitude towards the subjects being taught.

The researcher made some observation of lessons in progress to determine the degree to which child discovery approach was used. The results are presented in Table 4.10.

Table 4.10 Data from observation on utilisation of child discovery approach

Statement	Never	Rarely	Sometimes	Often	Always
a Teacher sparing time for creative activities	0	1	3	24	13
b Teachers teaching creative lessons	6	18	13	0	0
c Teachers use of child discovery approach	5	10	21	4	1
d Teacher use of print work of fine art	0	1	8	22	10
e teachers reading stories to learners	2	4	13	15	7
f Teachers giving learners experiment with different types of materials	6	5	15	10	5

Results from Table 4.10 on lesson observation by the researcher revealed that teachers sparing time in their schools timetable for creative activities was often (24) observed in 41 ECDE centres in West Pokot County. For instance, some classrooms were found to have nature corners while others had compounds and environment through which creative activities were facilitated by teachers. The researcher further observed that teachers regularly used fine art during teaching of creative activities.

Most items used in the lessons were locally made (improvised) by the teachers to support learning of various activities in pre-schools. The study finding coincides with Kang'ethe et al, (2015) who established that outdoor materials observed in the private centers included swings, climbing frame (in one centre), merry go round (in one centre), kites, tyres, balls, ropes; neither had sand pit. The researcher also recorded stories that were often narrated by teachers to learners in 22 schools that were visited.

However, creative lessons were rarely taught in public ECDE in the study area. In general, observation data showed that teachers moderately utilised discovery approach in teaching and learning activities in public ECDE in West Pokot County. The findings contradicted UNESCO (20015) report that there is need to encourage creativity from an early age as it is one of the best guarantees of child development and growth in a healthy environment that promotes self-esteem and mutual respect which are critical for building a culture of peace. On the information provided by head teachers on frequency to which discovery learning approaches were used in their schools. One school head mentioned that:

“We encourage teachers to assist learners to discover things on their own.”

Another head also reported that:

“Learners in my school are usually given small experiments to develop their discovery skills.”

However, another head teacher noted challenge in teachers' ability to use discovery approach in their classes:

“Some of the teachers in my schools have to go for training in order to develop competencies related to discovery learning approaches.”

From the above information, it is clear that not all teachers are using discovery teaching method in public ECDE centres in West Pokot County. Teachers, head teachers and researcher observation that it was moderately used in classroom teaching.

4.3.4 Utilisation of Activity Based Approach in ECDE Centres

The fourth child-centred approach is the activity based approach. This involves use of creative activities, plays, modelling, and use of realia (Babalola & Oyinloye, 2012). Therefore, the ECDE teachers were asked to rate the frequency to which they used activity based approaches in teaching and learning process using the following Likert scale of five: Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A). Table 4.11 illustrates the results on activity based approach.

Table 4.11 Utilisation of activity based approach by teachers

Statement		N	R	S	O	A	M	SD
a I engage and participate with learners in the playing field	f	8	3	41	85	20		
	%	5.1	1.9	26.1	54.1	12.7		.907
b I spare time for creative activities	f	8	7	76	42	24	3.43	.975
	%	5.1	4.5	48.4	26.8	15.3		
c I involve poetry in my lessons	f	16	53	42	46	0	2.75	.991
	%	10.2	33.8	26.8	29.3	0		
d I provide clay/plasticine materials for art learning	f	16	15	105	21	0	2.83	.783
	%	10.2	9.6	66.9	13.4	0		
e I use sound instruments when teaching music e.g. drums, flute (pipes), horns, sticks & whistles	f	15	14	62	54	12	3.22	1.040
	%	9.6	8.9	39.5	34.4	7.6		

Key: *N = never, R= Rarely, S= sometimes, O=often, A= always, M=Mean and SD-Standard deviation*

The results of the study from Table 4.11 showed that 8 (5.1%) of ECDE teachers never engaged and participated with learners in the playing field, 3 (1.9%) rarely participated, 41 (26.1%) sometimes participated, 85 (54.1%) often engaged learners in the playing field and 20 (12.7%) admitted that they always engaged learners in the playing field. The findings therefore imply that teachers often ($M = 3.68$ and $SD = 0.907$) accompanied learners during extra-curricular activities in the field as part of the implementation of ECDE curriculum objectives.

Cognate to the results, Andiema *et al.*, (2013) in a study on the relationship between play activities' implementation and learners' academic performance in Wes Pokot Sub County revealed that ECDE teachers did not engage and participate with the learners in the playfields. Writing from United Kingdom, Beard and Wilson (2005) indicate that the extent to which ECDE learning environment is real, natural or simulated influences the learning potential by pre-school children. The findings of the study also concur with a research by Hanley and Tiger (2011) in United States 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.

In addition to the study findings, Obuchere, Okello and Odungo (2014) established that most of the ECDE centres integrate all types of play activities commonly available in ECDE Centres. From this study, the reasons for only construct and manipulative play activities not being integrated in ECDE Curriculum by most of teachers and children is that, they seemed to be: complicated, not interesting and irrelevant to teaching and learning of young children.

On the other hand, the reasons for most of the play activities being integrated in ECDE curriculum by very many ECDE teachers were associated with: their simplicity, that they were interesting and relevant to the teaching and learning of young children. One head teacher mentioned this during the interview that:

In my school, learners play as at the same time learn and what they are actually involved in doing becomes more memorable.

Another head teacher during interview also remarked that:

“We have a big playground for learners to participate in co-curricular activities. I always ensure that the learners are accompanied by their teachers during PE lesson so that curricular goals may be achieved.

From the responses made by headteachers, it is clear that most of them emphasise that teachers should teach play activities as part of fulfilling curriculum requirements. As a result, learners understood better and therefore were able to share information in content being delivered through play. The research by Wangui (2011) in Kenya found mixed reactions as some pre-schools had very big playgrounds but with few play materials. Some of the materials found in nearly all the pre-schools were: tyres, ropes and balls. When a school has no playground, it is then evident that children spend all their time in class and they are denied a chance to play. Philosophers like Maria Montessori and Froebel agree that play activities are very important to children's growth in all aspects.

Secondly, the results of the study revealed that 8 (5.1%) of ECDE teachers never spared their time to involve learners for creative activities, 7 (4.5%) rarely spared their time to engage with learners in creative activities, 48.4% sometimes spared their time, 26.8% often spared their time and 15.3% of teachers always spared their time

for creative activities. The findings suggests that teachers sometimes ($M = 3.43$ and $SD = 0.975$) created free time for learners to be involved in creative activities. Creative activities develop learners' abilities to reason and understand the world and its cultures. They offer learners opportunities to respond, perform, and create in the arts (Irish Teachers National Organisation, 2009; Sarah, 2013). In addition, UNESCO (2015) report indicated that teachers are required to always look for time for creative activities since learners in ECDE are at a critical stage of their development. The use of creative activities will help learners to develop encoding skills due to their exposure to physical environment. Wangui (2011) also said that ECDE learners should be given many activities to help them develop their abilities and create enjoyment and interest.

On the frequency to which ECDE teachers incorporated poetry in their lessons as part of promoting creative activity approach, 16 (10.2%) of teachers did not integrate poetry in their lessons, 53 (33.8%) rarely included poetry in their lessons, 42 (26.8%) sometimes used poetry in teaching and only 46 (29.3%) of the ECDE teachers often incorporated poetry in their lessons. The findings are in contrast with Starko (2010) opinion that teachers should have the capability to control and guide the child's process of holistic craft making and be able to offer creative solutions to support reflection and problem solving.

The study obtained a mean of 2.75 with standard deviation scores of 0.99 which indicated that poetry was not commonly integrated in ECDE classrooms in the study area despite its significance in improving learners language and oratory skills. Poetry is a creative way in which learners can memorize information provided by teachers in an easier and faster way (Tzuo *et al*, 2011). These findings are in tandem with the

research results in Tanzania where Tarimo (2013) established that the practice of poetry activities by pre-scholars would enhance the development of multiple skills and experiences including the promotion of listening and speaking skills which are basic in language development. Poetry was found to be rarely used by teachers in West Pokot County. Therefore, teachers were less likely to bring out a spirit of creativity in the learners.

When asked to indicate the frequency to which teachers used clay and plasticine resources to help learners in moulding sculptures, 16 (10.2%) had never provided the materials, 15 (9.6%) of the ECDE teachers rarely used clay in art classes despite it being locally available from the environment, 105 (66.9%) of teachers sometimes provided clay and plasticine while 21 (13.4%) of teachers often used clay or plasticine materials for teaching and learning art in ECDE. The findings implied that ECDE teachers occasionally ($M= 2.83$ and $SD = 0.783$) used clay and plasticine in teaching artwork activities to ECDE children.

However, due to the parental socio-economic status, most of public ECDE centres did not have plasticine and therefore teachers had to resort to utilise clay which is locally available and functions the same as plasticine although clay cannot be reused later when dry. The findings are in agreement with Wangui's (2011) study in Kenya that established that teachers were using plasticine in reading lessons, to model letters and animals. Others said that they only used plasticine in creative activities.

The findings concur with a study by Zigler (2008) in United States 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.

Similarly in Tanzania, Tarimo (2013) found out that most of pre-schools had basic play objects which they probably used for teaching and learning purposes. These objects are important in the introduction and reinforcement of concepts as well as unstructured play sessions.

Furthermore, the study further sought to know whether the teachers incorporated the use sound instruments (drums, flute/pipes, horns, sticks, and whistles) when teaching music. 15 (9.6%) of the teachers never integrated sound instruments when teaching music, 14 (8.9%) rarely used them, 62 (39.5%) sometimes used them, 54 (34.4%) often integrated sound instruments and 12 (7.6%) of the respondents always used sound instruments when teaching music to pre-school learners. The obtained mean value ($M= 3.22$, $SD = 1.040$) interprets that music instruments were used at times in ECDE centres. This could be due to their unavailability in schools making some teachers to apply their knowledge to make traditional instruments (flutes, drums) using locally available materials.

From the findings on the use of activity based approach in promoting teaching and learning, the results shows that it is moderately utilised ($M=3.43$ and $SD=0.818$) in learners instruction in ECDE centres in West Pokot County. The study results are not in line with Beard and Wilson (2006) who argued that in order to help learners learn from experience, teachers often use a combination of activities and drama, sculpting, role-play, arts and crafts, stories and metaphors. Such methods encourage learners to express thoughts and ideas on their experiences. The study also conducted lesson observations to find out how activity based child-centred teaching approach was used by teachers in ECDE classrooms. Table 4.12 gives the results.

Table 4.12 Data from observation on utilisation of activity based approach

Statement	Never	Rarely	Sometimes	Often	Always
a Teachers sparing time for dancing activities	0	0	8	23	10
b Teachers teaching through role play and drama	1	6	9	11	14
c Learners creating models by themselves	0	0	10	18	13
d Use of bead strings	3	5	10	10	15
e Musical instruments and realia used in creative activities	6	5	20	10	0

Result from Table 4.12 show that teachers were often sparing time (23) for dancing activities in most classrooms in the 41 primary schools studied. The research results also show that learners often created models by themselves and they made bead strings with the assistance of the teachers. However, the researcher observed that most of ECDE teachers were sometimes using musical instruments and realia in creative activities. The study summed up the average score of each child-centred approach through descriptive statistics to check the most preferred and the least preferred based on a Likert scale responses (1-Never to 5-Always). The results of the analysis are illustrated in Table 4.13.

Table 4.13 Descriptive statistics on utilisation of child-centred approaches

Child-centred Approaches	N	M	Std. D	Skewness Statistic	Std. Error
a Child discovery approach	157	3.7325	.53568	-.130	.194
b Child interest approach	157	3.5414	.71154	.826	.194
d Child needs approach	157	3.2739	.62646	-.595	.194
e Activity based approach	157	3.0892	.67345	-.872	.194
Valid N (Listwise)	157	3.4093	0.63678		

The descriptive statistics on Table 4.13 show that most teachers in West Pokot public ECDE centres preferred to use the child discovery approach (M=3.73 and SD=0.53) more as compared to other child-centred approaches. The second most utilised teaching approach was the child interest approach (M=3.54 and SD=0.71). However, the results show that the third most preferred method of instruction by teachers was the child needs approach and it was sometimes or occasionally used (M=3.27 and SD=0.62). The last teaching method used occasionally (M=3.08 and SD=0.67) was the activity based approach.

Child discovery and child needs approach had positive skewness as opposed to child interest approach and activity based approach. Normally was observed in the two that had negative Skewness ± 1.96 as opposed to discovery and needs approach whose Skewness was greater than ± 1.96 . From the results, it is evident that most of ECDE teachers in West Pokot County occasionally used child-centred approaches in teaching and learning activities in ECDE centres. The information is related to what some head teachers attested during the interviews in response to questions asked on the degree to which child-centred approaches were used by their teachers. One head teacher indicated that:

“Child-centred is often used. However, most of teachers in my school use teacher centred and thematic approaches.”

Another head teacher also noted that:

“The teachers teach using thematic approach and Montessori methodology for reading.”

Another head teacher said that:

I usually ask my teachers to desist using teaching methods where learners copy notes from the chalkboard, read their notes and test them.

From the above responses from the head teachers, it's clear that different teachers apply different methods of teaching due to the nature of training they received in the teacher training colleges. It is also clear that most of the teachers often use child-centred approach and inadequate learning materials appear to be the major reason for non-use.

In the lessons observed by the researcher, most learners worked together in pairs, groups or individually. In most cases, learners had to apply certain skills, which fostered relations in working together, either as a team or a group. The research findings are consistent with Chepkemoi et al, (2013) research in teacher training colleges in Kenya that found out that trainers mainly used teacher-centred approaches during class instruction. The use of this pedagogy was meant to help teachers complete the syllabus before national examinations although many would fail to. The research findings are inconsistent with UNICEF (2012) research in Myanmar that found out that there was very little use of pair or group work to promote problem solving activities except when learners, on rare occasions, voluntarily helped each other. Breaks in this pattern occurred when children were called to the front of the classroom to work at the blackboard, although this teaching strategy was not common.

From the above findings, it has been seen that child-centred approaches are moderately applied in teaching and learning. This is explained by UNESCO's report that found out that the teaching conditions in many schools in Sub-Saharan Africa posed serious practical concerns for teachers seeking to implement learner-centered methods (Vavrus et al, 2011).

4.4 Utilisation of Child-centred Approaches in the Teaching and Learning of Mathematics Activities

The main dependent variable for the study was to examine changes in teaching and learning activities caused by use of child-centred activities. The researcher found it necessary to establish the teaching and learning activities in Mathematics. Moreover, ECDE learners understanding of mathematical concepts such as counting, conducting summation, subtraction and the ability to recognize and draw mathematical shapes starts in early childhood.

Researchers (Barnett, 2010; Popoola, 2014) established that many students at post primary education levels performed poorly in mathematical tasks. This situation has been traced to deficient literacy skills at ECDE level (Suporitz, Foley & Mishood, 2012). The reason for this can be traced to poor foundation. Their interest might not have been aroused and sustained during their pre-primary education experiences.

Therefore, ECDE teachers were asked to indicate their rating on the ability of their learners in mathematics based on the following scale: Poor (P), Below Average (BA), Average (A), High (H) and Very high (VH). The results are as presented in Table 4.14.

Table 4.14 Teachers' rating of the learners' abilities in mathematics activities

Statement		P	BA	A	H	VH	M	SD
a Ability of learners to count	f	18	16	62	52	9	3.11	1.056
	%	11.5	10.2	39.5	33.1	5.7		
b Ability of learners to conduct summation activities	f	12	13	85	42	5	3.10	.883
	%	7.6	8.3	54.1	26.8	3.2		
c Learners ability to do subtraction activities	f	10	18	77	44	8	3.14	.916
	%	6.4	11.5	49.0	28.0	5.1		
d Learners ability to recognise mathematical shapes	f	9	17	58	69	4	3.27	.901
	%	5.7	10.8	36.9	43.9	2.5		
e Learners ability to draw mathematical shapes like; rectangle, triangle, circle and square	f	18	25	48	58	8	3.08	1.092
	%	11.5	15.9	30.6	36.9	5.1		

Key: *P-Poor, BA-Below Average, A-Average, H-High, VH-Very High, M=Mean and SD-Standard deviation*

Results from Table 4.14 show that 18 (11.5%) of teachers indicated that their learners ability to count was poor, 16 (10.2%) indicated the learners were below average in ability, 62 (39.5%) rated their ability as average, 52 (33.1%) pointed that it was high and 9 (5.7%) showed that it was very high. From the above findings, it is evident that learners ability to count numbers was average ($M=3.41$ and $SD=1.056$) in public ECDE centres in West Pokot County. This shows that learners' numeracy skill stills needs to be worked on to improve their understanding and performance in mathematics subject. To explain the reason for moderate level of competency, a study in Nigeria by Popoola (2014) found out that that non-use of songs and rhymes by teachers could be the one hindering children's ability to count numbers well. This is because songs and rhyme can be used to teach numbers since learners learn in a play way method which enhances recall and easy recollection of activities in the class.

On learners ability to sum up numbers, 12 (7.6%) indicated learners capability was poor, 13 (8.3%) said it was below average, 85 (54.1%) said it was average, 42 (26.8%) said that it was high and only 5 (3.2%) of teachers said that their learners competency in doing summation activities was very high. The mean values obtained suggests ($M = 3.1$ and $SD = 0.883$) that learners aptitude to conduct summation (addition) activities in mathematics was below average and this could be due to the approaches that teachers use in teaching them. This shows that child-centred approaches were not applied evenly across all mathematics units in the classrooms.

The findings disagree with studies conducted in Western countries by Bouchard et al (2010) that showed that when teachers employed more child-centred numeracy activities, the learners were more motivated towards numeracy learning. However, during interviews, some head teachers noted that child-centred approaches were used in mathematics lessons. For instance, one head teacher noted that:

“Child-centred approach method is used in some subjects like mathematics and science activities because the resources for science and mathematics entail counters, like stones which are easily available.”

Another head teacher also reported that:

Majority of learners in my school understand basic mathematics concept of addition because teachers use various resources to help them learn and understand.

From the above information, it is clear that some ECDE teachers in West Pokot County used the available instructional resources to teach learners and this has helped

to improve ECDE learners' mathematical skills. In order to find out whether learners had the ability to do subtraction activities, findings revealed that 10 (6.4%) of teachers said that learners' level of conducting subtraction activities was poor, 18 (11.5%) said it was below average, 77 (49.0%) said it was average, 44 (28.0%) said it was high and only 8 (5.1%) rated their learners competency as very high. This implies that learners still have average ($M= 3.14$ and $SD = 0.916$) understanding of subtraction in mathematics activities. This shows that learners have not yet developed enough competencies at school to enable them perform mathematics subtraction activities. This could be due the approaches that the teachers use in instruction.

When teachers were asked to rate their learners understanding and ability to recognise mathematical shapes, 9 (5.7%) held that it was below poor, 17 (10.8%) said it was below average, 58 (36.9%) alleged that it was on average, 69 (43.9%) believed it to be high while 4 (2.5%) indicated the level as high. This shows that learners ability to identify and contrast different mathematical shapes as average ($M= 3.27$ and $SD = 0.901$). From these findings, it is seen that learners' moderate level of identifying mathematical shapes could be due to their unavailability of these resources in schools affected their utilisation rate by teachers.

The observations made by the researcher showed that most of ECDE centres did not have rectangular, triangle, square object shapes or even rulers as instructional media resources. This affected their effort to draw mathematical shapes as 11.5% pointed their competency as poor, 15.9% of teachers rated their learners ability as of below average, 30.6% indicated that it was on average, 36.9% indicated learners ability as high and only 5.1% showed their ability was very high. This is confirmed by descriptive statistics results obtained ($M= 3.08$ and $SD = 1.092$). During lesson

observation, the researcher recorded the following ratings of pre-school learners' mathematics activities as given in Table 4.15.

Table 4.15 Rating of learners competencies in mathematics activities

Learners competencies in mathematics	Low	Below average	Average	High	Very high
a Ability of learners to count	0	6	13	12	7
b Ability of learners to conduct summation activities	6	7	15	9	4
c Learners ability to do subtraction activities	8	10	16	7	0
d Learners ability to recognise mathematical shapes	4	6	18	6	7
e Learners ability to draw mathematical shapes like; rectangle, triangle, circle and square	6	10	20	5	0

As shown in Table 4.15, the results from observations revealed that most learners had average competency in mathematics activities. The study showed that learners had higher competencies in counting as opposed to other numeracy skills relating to summation, subtraction, ability to recognise mathematical shapes and drawing the mathematical shapes. In light of the aforementioned findings, learners' ability to count, do subtraction activities, recognize and draw mathematical shapes was average. Despite this, their ability to conduct summation activities was below average. In ECDE, learners are expected to exhibit exemplary performance in Mathematics activities since early childhood classrooms are a foundation for mathematical skills needed later in life (Linder, et al, 2011).

Consequently, in Nigeria, Popoola (2010) found out that deficient numeracy skills at the ECDE level contributed to poor performance in numerical tasks at secondary level

of education. Linder, Powers-Costello and Stegelin (2011) researched on strategies in the USA for improving performance in mathematics in early childhood education, specifically in numeracy. They advocated for instructional methods of the Reggio Emilia approach based on meaningful activities for children, citing also intentional teaching to make up for the lack of mathematics content in the ECE curriculum. From the above findings and discussions, it is thus imperative for learners at ECDE level to be helped early enough to understand concepts in numeracy since they will need it to build their future academic attainments.

4.4.1 Utilisation of Child-centred Approaches in Teaching and Learning of Mathematics Activities in ECDE Centres

This was the first objective of the research that sought to find out the proportion and degree to which child-centred approaches; child needs approach, activity based approach, child interest approach and child discovery approaches are applied on teaching and learning of language activities in public ECDE centres in West Pokot County. Language and other literary skills such as listening, reading, writing and speaking cannot be considered as complete without numeracy skills, such as: adding, sorting by colours and by shapes (Carmichael *et al*, 2009; Ensor *et al*, 2009). The first null hypothesis stated that:

H₀₁ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of Mathematics activities in ECDE centres in West Pokot County

A Pearson Product Moment correlation coefficient was computed to test the first hypothesis at 0.01 (99%) significant level. The correlation was also used to test the strength and direction of the relationship. The (r) values range from -1 to +1. Values

that are more than 0.5 shows they have strong influence while values that are below 0.5 shows weak influence (+ve or -ve). The results are presented in Table 4.16.

Table 4.16 Correlations on utilisation of child-centred approaches in teaching and learning of mathematics activities

Child-centred Approaches	Mathematics Activities	
a Child Needs Approach	Pearson Correlation	.218**
	Sig. (2-tailed)	.006
	N	157
b Child Interest Approach	Pearson Correlation	.300**
	Sig. (2-tailed)	.000
	N	157
c Child Discovery Approach	Pearson Correlation	.435**
	Sig. (2-tailed)	.000
	N	157
d Activity Based Approach	Pearson Correlation	.405**
	Sig. (2-tailed)	.000
	N	157

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

The correlation coefficient for the above results (Table 4.16) was positive which suggest that there exist significant ($p < 0.01$) positive correlation between child-centred approaches use and teaching and learning of mathematics activities by ECDE children in West Pokot County. The first null hypothesis is rejected leading to the conclusion that there exists significant positive relationship between utilisation of child centred approaches and teaching and learning of mathematics activities in public ECDE centres in West Pokot County. Out of the four approaches, results showed that child discovery approach had a higher correlation ($r=0.435$) on learners understanding of mathematics activities followed by activity based approach ($r=0.405$) then child interest approach ($r=0.300$) and lastly child needs approach ($r=0.218$). The findings

concur with Linder et al, (2011) who observed that the role of the teacher is to make a child's observations of mathematics in their natural world more obvious. In an attempt to use mathematical talk while avoiding being overly instructive, teachers sometimes mention number facts without adequately connecting them to a child's reality (Linder et al, 2011). This shows that child-centred approaches have significant influence on mathematics learning. The findings are supported by interview responses from head teachers where one of them remarked that:

“Child-centred approach has great impact on acquisition of mathematics competencies where learners are exposed to counting on his own thereby improving his numeracy skills.”

Another head teacher had this to say:

For learners to develop critical numeracy skills, they have to be taught in a way that they do not only become passive but active participants. It is what we emphasise our ECDE teachers to use.

This shows that both head teachers and teachers agree that child-centred approaches influence ECDE learners understanding of mathematics concepts in West Pokot County. The findings of the study are in line with Popoola's (2014) research study in Nigeria that established that use of guided play was a better method of teaching numeracy skills to early basic education learners. Popoola said that children in early basic education should be exposed to a lot of activities in a play way form to improve their cognitive skills relating to summation and subtraction.

Moreover, the relationship between pre-school teachers utilisation of learner centred approach on teaching and learning of mathematics activities in pre-school centres was significant ($p < 0.01$) leading to rejection of null hypothesis. The findings suggest that the teachers' continuous usage of child-centred approaches in the teaching and

learning of mathematics would greatly influence acquisition of numeracy skills. In conclusion, children's mathematics ability should be nurtured and extended by capable and confident teachers who position the child at the centre of their learning (Linder *et al*, 2011). Moreover, the use of child discovery and activity based approach should be emphasised in schools to promote learners understanding of mathematics concepts and ideas.

4.5 Utilisation of Child-centred Approaches in Teaching and Learning Language Activities

The second objective of the study was to investigate the utilisation of child-centred approaches in teaching and learning of language activities in public ECDE centres in West Pokot County. Wangui (2011) supposed that reading is a language and language is made up of words. Words reflect experiences because readers visualize objects and events thus forming images of the real world. Hence the more experiences readers have the more words they will have and they are likely to become proficient readers. At first, the study sought to find out teachers' utilisation of language activities if learners were able to write their name correctly, identify alphabetical order, speak in English and Kiswahili and pronounce simple words correctly. These statements were measured on a Likert scale of five; poor (P), Below Average (BA), Average (A), High (H) and Very High (VH). The results are presented in Table 4.17.

Table 4.17 Teaching and learning of language activities

Statement		P	BA	A	H	VH	M	SD
a Learners ability to write their names correctly	f	3	12	84	56	2	3.27	.701
	%	1.9	7.6	53.5	35.7	1.3		
b Learners ability to identification of alphabets (order)	f	20	5	74	42	16	3.18	1.091
	%	12.7	3.2	47.1	26.8	10.2		
c Learners ability to speak in English and Kiswahili	f	7	14	82	47	7	3.21	.840
	%	4.5	8.9	52.2	29.9	4.5		
d Learners ability to pronounce words	f	24	13	63	43	14	3.06	1.153
	%	15.3	8.3	40.1	27.4	8.9		
e Learners ability to spell correctly	f	17	36	59	41	4	2.87	1.007
	%	10.8	22.9	37.6	26.1	2.5		

Key: *P-Poor, BA-Below Average, A-Average, H-High, VH-Very High, M=Mean and SD-Standard deviation*

Table 4.17 shows that 3 teachers (1.9%) said that their learners ability to write their names correctly level seemed poor, 12 (7.6%) believed it was below average, 84 (53.5%) indicated that it was average, 56 (35.7%) supposed that it was high and 2 (1.3%) alleged it was very high. This showed that ECDE learners competency in writing their names was average ($M = 3.27$, $SD = 0.701$). A lot needs to be done to raise this trend by teachers, parents and other stakeholders.

When teachers were asked on whether learners have the ability to identify and arrange alphabets in order, 20 (12.7%) supposed that their learners' ability was poor, 5 (3.2%) indicated that it was below average, 74 (47.1%) indicated that it was average, 42 (26.8%) indicated their ability was high while 16 (10.2%) said it was very high. The findings imply that ECDE learners ability to identify alphabets and arrange in order was moderate ($M = 3.18$, $SD = 1.091$). A lot needs to be done by ECDE teachers in West Pokot County to raise the trend. This was noted to be as a result of non-regular

use of child-centred teaching approaches. The findings are different from Matsau's (2007) research in Lesotho that showed that frequent use of CCA helped learners acquire the knowledge of word order, phrasing and punctuation that contribute to the meaning of a written sentence.

With regard to ECDE learners proficiency to speak in the official languages; English and Kiswahili, the results showed that (4.5%) rated learners' communication competency as poor, 14 (8.9%) pointed out that it was below average, 82 (52.2%) pointed out that it was on average, 47 (29.9%) indicated that it was high and only 7 (4.5%) rated learners ability to speak in English and Kiswahili as very high. From the above findings, it is clear that learners ability to communicate in English and Kiswahili was low in most public ECDE in West Pokot County ($M = 3.21$, $SD = 0.84$). ECDE learners' inability to communicate in English and Kiswahili could be due to the influence on mother tongue language that government recommends to be the language of instruction in ECDEs.

With reference to respondents' ability to pronounce words correctly, 24 (15.3%) rated their learners ability to be poor, 13 (8.3%) indicated that it was below average, 63 (40.1%) indicated their level to be on average, 43 (27.4%) rated their competency as high while 14 (8.9%) said it was high. From these results, it is clear that learners ability to pronounce words correctly was average ($M = 3.06$ and $SD = 1.153$) as perceived by most ECDE teachers in the study area. Finally, (10.8%) of teachers indicated that their learners ability to spell correctly was poor, 22.9% rated them (learners) as below average, 37.6% said it was average, 26.1% said it was high and 2.5% indicated their ability to be high. The response had a mean of 2.87 with standard deviation score of 1.007 suggesting learners' average competency in spelling words

correctly. Their inability to spell words correctly is basically affected by teaching methods that their teachers use in classroom instruction. The researcher also made observations during classroom teaching and determined the following ratings for pre-school learners' language activities. Table 4.18 presents the results.

Table 4.18 Rating of learners competencies in language activities

Statement	Low	Below average	Average	High	Very high
a Learners ability to write their names correctly	2	8	9	17	5
b Learners ability to identification of alphabets (order)	0	5	5	20	11
c Learners ability to speak in English and Kiswahili	0	13	14	4	10
d Learners ability to pronounce words	8	14	11	5	3
e Learners ability to match words	5	6	14	16	0

Results of the study in Table 4.18 revealed that most of learners had higher abilities to write their names correctly and identification of alphabets. However, the researcher observed that learners' ability to pronounce words, speak in official (English and Kiswahili) and match words in language learning was low. This could be due to the interference of mother tongue (Pokot) and also lack of regular practices using learner centred approaches. In light of the above mentioned findings, ECDE goal of creating skilful readers and writers has not been achieved (Mmela, 2010). It can therefore be deduced that learners are not actively involved in language activities hence they find it challenging to speak in English and Kiswahili. This could be due to moderate use of child-centred approaches in teaching and learning in the schools. Different from the study findings, Mmela (2010) established that the traditional teaching approaches to English subjects were still dominant in Malawian classrooms. This was due to the

fact that teacher training colleges in the country used direct teacher methods (teacher centred).

The second null hypothesis stated that:

H₀₂ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of language activities in ECDE in West Pokot County

To test the hypothesis, a Karl Pearson correlation statistic was computed at 99% (0.01) and 95% (0.05) significant levels. The results of the analysis are presented in Table 4.19.

Table 4.19 Correlations on the CCA on teaching and learning languages activities

Child-centred teaching approaches		Language activities
a. Child Needs Approach	Pearson	.198*
	Correlation	
	Sig. (2-tailed)	.013
	N	157
b. Child Interest Approach	Pearson	.199*
	Correlation	
	Sig. (2-tailed)	.012
	N	157
c. Child Discovery Approach	Pearson	.343**
	Correlation	
	Sig. (2-tailed)	.000
	N	157
d. Activity Based Approach	Pearson	.375**
	Correlation	
	Sig. (2-tailed)	.000
	N	157

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

Table 4.19 shows that there exist enough evidence to show that at both 0.01 and 0.05 significant levels, a significant positive relationship exist between utilisation of child

centred approaches and teaching and learning of language activities in public ECDE centres in West Pokot County. The second null hypothesis was therefore rejected ($p < 0.05$ & $p < 0.01$). For instance, results show that activity based approach ($r = 0.375$ and $p = 0.001$) was found to have a stronger positive influence as compared to other teaching methods that teachers were using in classroom. This could be due to the involvement of music instruments and resources that aid learners' audibility and ability to communicate with their fellow learners and teachers in schools.

The study findings coincides with Nguku (2015) study which showed that when pre-school children were exposed to different play materials, there was varied improvement in the performance mean score in Machakos County. In addition, to the study results in Tanzania by Tarimo (2013) found evidence that children's use of songs and a wide range of playing materials in pre-primary settings builds and develops remarkable abilities in perceiving various concepts about different objects, situations, relationships and environment. Since play dominates any interactive teaching, the purpose of this study was to establish the use of play as a teaching strategy. Similarly in Lesotho, Matsau (2007) indicated that the use of activity based approach provided learners with a meaningful environment for practising oral reading repeatedly in order to develop fluency.

Secondly, discovery approach also had significant influence ($r = 0.343$ and $p = 0.001$) on learners learning of language activities. This shows that teachers' continuous usage of this approach would positively impact on learners' language development. Despite scoring a low positive correlation ($r = 0.199$ and $p = 0.012$), it was revealed that child interest approach use in classroom had positive impact on children learning of language activities. The results are also significant at 0.05 levels which suggest that

increase in use of child interest approach would improve learners' acquisition of language skills.

Lastly, child needs approach usage was also found to have positive influence ($r=0.198$ and $p=0.013$) on pre-school learners language development. This meant that the use of this method in classroom teaching and learning raised learners' language skills. In general, teachers' continuous usage of CCA approaches, teaching and learning of language activities improves. The study findings correspond to Kumar's (2014) study in India showed that the audio-visual intervention program of experimental group between post-test and pre-test was found a positive influence on the language development total scores of preschool children. The audio-visual intervention program has a positive influence on the listening comprehension of the preschool children. The audio-visual intervention program has also positively affected the overall language development of the preschool children. This is because the use of audio-visual educational media is one of the child-centred teaching approaches.

4.6 Utilisation Child-centred Approaches in Teaching and Learning of Science Activities

The third objective of the study was to determine the utilisation of child-centred approaches on the teaching and learning of science activities in ECDE centres in West Pokot County. Science education is a process and is a way of discovering physical world. It is based on experimental assumption which argues that children learn things by means of five senses (smelling, listening, touching and tasting) and through language (as a means of explaining things) (Kolawole, 2002; K.I.E, 2003; Madlela, 2014). At first, the study sought to establish pre-school learners' ability in regards to science activities. These were ability to experiment, classify living organisms, observe

weather changes, use their hands to make objects and differentiate natural features and environment. These statements were measured on a Likert type scale of five; poor (P), Below Average (BA), Average (A), High (H) and Very High (VH). The results are given in Table 4.20.

Table 4.20 Teaching and learning of science activities

Statement		P	BA	A	H	VH	M	SD
a Learners ability to experiment e.g. water channelling	f	20	25	53	51	8	3.01	1.098
	%	12.7	15.9	33.8	32.5	5.1		
b Learners ability to classify; plants, animals, birds and fishes	f	15	25	47	43	27	3.27	1.200
	%	9.6	15.9	29.9	27.4	17.2		
c Learners ability to observe e.g. weather patterns, shadows (morning, afternoon, evening and night)	f	14	21	59	53	10	3.15	1.033
	%	8.9	13.4	37.6	33.8	6.4		
d Learners ability to use their hands to make objects	f	3	7	71	48	28	3.58	.900
	%	1.9	4.5	45.2	30.6	17.8		
e Learners ability to draw and differentiate natural features and environment	f	13	20	61	54	9	3.17	1.005
	%	8.3	12.7	38.9	34.4	5.7		

Key: *P-Poor, BA-Below Average, A-Average, H-High, VH-Very High, M=Mean and SD-Standard deviation*

Table 4.20 findings of the study shows that 20 (12.7%) of teachers indicated that their learners ability to experiment was poor, 25 (15.9%) indicated to it was below average, 53 (33.8%) rated them as average, 51 (32.5%) rated learners competency as high and 8 (5.1%) rated learners ability to experiment as very high. From the results it is clear that ECDE children ability to do water channelling was above average as confirmed by descriptive results (M= 3.01, SD = 1.098). Therefore, teachers have made significant efforts to teach learners how to do small experiments and this helps them

to build their scientific skills. This process only creates opportunities for scientific management and the introduction of new words. In relation to the theory of constructivism, when learners engage in experiments it enables them to grasp events in interaction with physical world while interpreting them with their own concepts (Buyuktaskapu, 2011). Buyuktaskapu (2011) found out that it is important that ECDE teachers to adopt constructivist approach when preparing science education programs and have higher science education self-efficiency perception levels to bring up a new generation of scientists. However, the results of the study are inconsistent with study results that showed that pre-school teachers in Turkey adopted traditional approaches more than constructivist approaches in science activities.

Secondly, 15 (9.6%) of respondents indicated that learners ability to classify living organisms into plants and animals was poor, 25 (15.9%) pointed out that it was below average, 47 (29.9%) rated learners ability as moderate, 43 (27.4%) said that it was high and 27 (17.2%) indicated that their learners ability as very high. It was therefore deduced that learners have moderate ($M = 3.27$ and $SD = 1.2$) level of understanding on plants and animal classification. When teachers were asked to indicate their ECDE learners ability to observe change in weather, day and climate patterns, 14 (8.9%) rated their capacity as poor, 21 (13.4%) pointed that it was below average, 59 (37.6%) said it is average, 53 (33.8%) said it was high and 6.4% indicated that it was high very high. The results suggests that learners have at least moderate (mean = 3.15 and $SD = 1.033$) capacity to identify and differentiate weather patterns, times of day and night and even climate changes. Their capability to identify the weather patterns is aimed at improving their science skills.

Moreover, 3 (1.9%) of ECDE teachers rated preschool learners skills to use their hands to make objects as poor, 7 (4.5%) rated them as below average, 71 (45.2%) termed the level as moderate, 48 (30.6%) said it was very high while 28 (17.8%) indicated it as very high. The obtained descriptive results was ($M = 3.58$ and $SD = 0.9$) indicating that preschool children skills in making objects was average.

On the learners ability to draw and differentiate natural features and environment, 13 (8.3%) mentioned that their competency was poor, 20 (12.7%) of teachers said it was below average, 61 (38.9%) said it was average, 54 (34.4%) rated it as high and only 9 (5.7%) of teachers rated their preschool children ability to different natural features and environment as very high. This implies that ECDE children have average understanding of differentiating natural features and environment ($M = 3.17$, $SD = 1.005$) in West Pokot County ECDE centres. In conclusion to this section, the average computed mean for the five items on science activities was average ($M=3.24$ and $SD=1.047$).

Through observation checklist, the researcher also rated the ECDE learners' skills and competencies in science activities. The responses are given in Table 4.21.

Table 4.21 Rating of learners competencies in science activities

Science activities	Low	Below average	Average	High	Very high
a Learners ability to experiment e.g. water channelling	7	9	18	2	5
b Learners ability to classify; plants, animals, birds and fishes	5	6	17	5	8
c Learners ability to observe e.g. weather patterns, shadows (morning, afternoon, evening and night)	2	6	21	5	7
d Learners ability to use their hands to make objects	10	12	16	3	0
e Learners ability to draw & differentiate natural features and environment	9	13	12	3	4

Results observed in Table 4.21 by the researcher showed that the learners competencies in science activities was average in many areas investigated. The statistics further showed that learners had difficulties in drawing and differentiating natural features and environment and ability to use their hands to make objects. However, they tended to show an average degree of skill in water channelling, classification of living organisms and ability to observe weather patterns. This shows that the learning strategies used did not adequately address the science skills that pre-school learners needed to acquire. The third research hypothesis stated that:

H₀₃ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of sciences activities in ECDE in West Pokot County

Therefore, a Karl Pearson correlation coefficient was computed at 0.05 and 0.01 significant level. The results are presented in Table 4.22.

Table 4.22 Correlations on the CCA on teaching and learning of science activities

Child-centred teaching approaches		Science activities
a. Child Needs Approach	Pearson Correlation	.181*
	Sig. (2-tailed)	.024
	N	157
b. Child Interest Approach	Pearson Correlation	.215**
	Sig. (2-tailed)	.007
	N	157
c. Child Discovery Approach	Pearson Correlation	.370**
	Sig. (2-tailed)	.000
	N	157
d. Activity Based Approach	Pearson Correlation	.360**
	Sig. (2-tailed)	.000
	N	157

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.22 shows that there exist significant ($p < 0.05$ and $p < 0.01$) positive relationship between ECDE teachers' utilisation of child-centred approaches and preschool children acquisition of scientific skills. Therefore the third null hypothesis is rejected ($p < 0.05$ and $p < 0.01$). Out of the four methods that were tested, the research study established that child discovery approach had higher correlation ($r = 0.370$ and $p = 0.01$) values meaning that child discovery approach method had a significant impact on teaching and learning of science activities in schools because learning the subject involves learners experimenting and discovering new things.

Wilson (2015) supports this view by explaining that ECDE children need to discover or construct their own ideas. Developing new concepts or ideas is an active process and usually begins with child-centred inquiry, which focuses on the asking of

questions relevant to the child. Inquiry involves a number of science-related activities and skills.

Secondly, activity based approach had significant positive influence ($r=0.360$ and $p=0.01$) on teaching and learning of science activities in pre-schools. Thirdly, the research established that child interest approach too had significant positive influence ($r=0.251$ and $p=0.024$) on teaching and learning of science activities. Lastly, it was also clear that child interest approach had also positive influence ($r=0.181$ and $p=0.024$) on pre-school children learning of science activities. On average, it is clear that there exist a positive degree of correlation between teachers' use of child-centred approaches in teaching and learning of science activities in ECDE.

The correlation also is significant at 0.01 and 0.05 levels (2-tailed) of confidence. Therefore, an increase in the utilisation of child-centred approaches increases teaching and learning of science activities. The study findings contradicts with Buyuktaskapu's (2011) research in Turkey that found out that there was significant negative relationship between teachers belief in constructivist (learner centred) approach and their self-efficacy in science teaching. Buyuktaskapu found out that while teachers' belief in constructivist approach in pre-school science activities increased, their self-efficacy perceptions in science teaching decreased. This showed most of teachers preferred using traditional approaches in Turkey pre-schools and this affected learners' acquisition of science skills.

4.7 Utilisation of Child-centred Approaches in Teaching and Learning of Creative Activities

In most cases, learners have a preference on creative ways of learning rather than focus on memorizing of information. As such, whenever creative activities are applied

in the course of learning, learners learn better and faster (Shelly et al, 2010; Ronkko & Aerrila, 2015). The fourth objective of the study was to determine teacher utilisation of child-centred approaches in teaching and learning of creative activities in public ECDE centres in West Pokot County. The researcher therefore deemed it important to establish the learners understanding creative activities. Creative activities enable learners' acquisition of skills in; playing with different objects, drawing, painting, singing, dramatization and sculpturing (K.I.E, 2003; Obuchere et al, 2014). These statements were measured on a Likert scale of five; poor (1), Below Average (2), Average (3), High (4) and Very High (5). Table 4.23 illustrates the results.

Table 4.23 Teaching and learning of creative activities

Statement		P	BA	A	H	VH	M	SD
a Learners ability to play with different objects e.g. blocks	f	4	6	55	52	40	3.75	.965
	%	2.5	3.8	35.0	33.1	25.5		
b Learners ability to draw and paint objects	f	2	9	69	54	23	3.55	.858
	%	1.3	5.7	43.9	34.4	14.6		
c Learners ability to sing	f	3	5	38	45	66	4.06	.982
	%	1.9	3.2	24.2	28.7	42.0		
d Learners ability to dramatise (role play)	f	14	41	23	54	25	3.22	1.249
	%	8.9	26.1	14.6	34.4	15.9		
e Learners ability to construct/mould objects e.g. sculptor	f	1	28	62	31	35	3.45	1.047
	%	.6	17.8	39.5	19.7	22.3		

Key: P-Poor, BA-Below Average, A-Average, H-High, VH-Very High, M=Mean and SD-Standard deviation

Findings from Table 4.23 reveal that 4 (2.5%) of ECDE teachers rated learners ability to be involved in play with different objects at school as poor, 6 (3.8%) indicated that it was below average, 55 (35.0%) indicated the level as moderate, 52 (33.1%) rated that it was high and 40 (25.5%) said it was very high. This indicates that ECDE

children have high ($M = 3.75$, $SD = 0.965$) aptitude and capacity to participate in play activities in their schools. This therefore implies that teachers do not regularly teach using activity based child-centred teaching approaches in preschool centres in West Pokot County.

The information was corroborated with one head teacher interviewed who said that:

Teachers in my school do not regularly fulfil their roles of engaging learners in play activities in schools. They tend to forget or ignore the integration of play sometimes.

The results coincide with Obuchere et al, (2014) study in Bondo Sub County that found out that teachers did not fulfill some of the roles specified for them in integration of play in ECDE curriculum. However, the study is different from Nguku (2015) who established that play materials have a significant influence on preschool children's academic performance. It can therefore be concluded that play materials have a significant influence on academic performance of children in pre-schools although majority of teachers in West Pokot Sub county do not regularly assist learners in play activities.

With reference to level of learners' skills in drawing of items and painting work, 2 (1.3%) termed learners ability as poor, 9 (5.7%) indicated that it was below average, 69 (43.9%) of the teachers said their learner capacity was average, 54 (34.4%) indicated that it was high and 23 (14.6%) of respondents noting that it was very high. This is confirmed by mean values obtained mean 3.55 together with standard deviations scores 0.858 that depicted teachers rating of learners skills in artwork activities of drawing and painting as high. In Finland, Aerila and Ronkko, (2013) suggest that this conceptualisation helps the teacher and the children to understand

their own interpretation and that of others by making visible the inner thoughts prompted by the fictional tale.

It is common in ECDE that children sing several times a day (Ahmed & Aziz, 2009). Therefore, the teachers were asked to rate their ECDE learners ability to sing well. According to results from Table 4.23, 3 teachers (1.9%) rated children's ability to sing was poor, 5 (3.2%) rated them below average, 38 (24.2%) rated children capacity to sing as average, a significant 45 (28.7%) number of teachers rated their learners as high while most 66 (42.0%) indicated their level very high. From this it is evident that the learners gifts, talent and skills in singing songs have been well nurtured by the teachers in most ECDE centres in West Pokot County (M= 4.06 and SD = 0.982).

The findings coincide with ITNO (2009) who found out that curriculum areas most influenced by music education included language development, reading, mathematics, and science. Music itself is a form of language comprising patterns which can be used to form notes, chords, and rhythms. Experience in music helps a child to analyse the harmonic vowel sounds of language as well as to sequence words and ideas. Another curriculum area enhanced by music participation is reading. A child who participates in music activities experiences sensory integration, a crucial factor in reading readiness.

On preschool children ability to dramatize, 14 (8.9%) rated pre-school learners competencies in role play as poor, 41 (26.1%) of ECDE teachers asserted that learners' ability to dramatize was below average, 23 (14.6%) indicated that it was average, 54 (34.4%) indicated as high and 25 (15.9%) scaled children ability to dramatize as very high. The study obtained a mean of 3.22 with standard deviation scores of 1.249 implying that learners' ability to participate in role play was average.

This shows that not all learners have the skills to participate in simple plays in pre-schools. The study coincides with Ngecha's (2011) research that found out that public pre-schools were the most hit with few play facilities and materials while a few private schools in well-established areas in Makadara had a variety of play materials and facilities. The study findings are different from ITNO (2009) in Ireland that found that pre-schools in Ireland used drama as a teaching method. This is because dramatization can potentially capture topics from other curricular areas with this unique accessibility. When children are learning, historical concepts, for example, can be brought to life as the participant 'lives through' a historical event or era. By learning through the body and senses, an enhanced understanding of the topic can be gained. The complex nature of events or their surroundings may emerge, leading to a more holistic understanding of the topic at hand.

Lastly, when asked to rate ECDE children's ability to construct objects by their own, 1 teacher (0.6%) indicated their level was poor, 28 (17.8%) indicated that it was very low, 62 (39.5%) rated their skills as average, 31 (19.7%) pointed out that it was high and 35 (22.3%) indicated that it was very high. The descriptive statistics results ($M=3.45$ and $SD = 1.047$) indicated learners' ability to make objects was high. Therefore, this is a skill that needs to be more nurtured in the learners by ECDE teachers in the study area. In general, the average statistics for children's competency in creative activities was found to be on average ($M=3.38$ and $SD=1.021$).

The study also made observation of learners' participation in creative activities and Table 4.24 presents the researcher's rating on their competencies.

Table 4.24 Rating of learners competencies in creative activities

Statement	Low	Below average	Average	High	Very high
a Learners ability to play with different objects e.g. blocks	0	1	15	17	8
b Learners ability to draw and paint objects	3	5	7	20	5
c Learners ability to sing	0	0	7	30	4
d Learners ability to dramatise (role play)	4	6	8	12	11
e Learners ability to construct/mould objects e.g. sculptor	3	5	8	10	15

Table 4.24 result shows that most pre-school pupils had higher competencies in singing as recorded by the research. This was seen in schools whereby the pre-school learners used to sing every morning, after the break and when they were about to go home by singing lullabies in English, Kiswahili and Pokot. This improved their communication and also verbal skills. Secondly, it was also observed that most learners were able to construct and mould objects using clay which was locally available. Thirdly, it was also evident that through using local modified resources, learners' competencies in drawing and painting was high. Moreover, the researcher observed that the learners had higher skills in role play and ability to play with different objects. In general, the researcher observed that ability in creative activities was high among learners in the ECDE centres in West Pokot County.

The fourth research hypothesis stated that:

H₀₄ There is no significant relationship between utilisation of child-centred approaches in the teaching and learning of creative activities in ECDE centres in West Pokot County

A Karl Pearson correlation was computed to test the hypothesis between utilisation of child-centred teaching approaches and teaching and learning of creative activities in pre-schools. The probability level was set up at 99% (0.01) confidence level. The results of the analysis are illustrated in Table 4.25.

Table 4.25 Correlations between CCA and creative activities

Child-centred teaching approaches		Creative activities
a. Child Needs Approach	Pearson Correlation	.255**
	Sig. (2-tailed)	.001
	N	157
b. Child Interest Approach	Pearson Correlation	.329**
	Sig. (2-tailed)	.000
	N	157
c. Child Discovery Approach	Pearson Correlation	.323**
	Sig. (2-tailed)	.000
	N	157
d. Activity Based Approach	Pearson Correlation	.386**
	Sig. (2-tailed)	.000
	N	157

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

Results from Table 4.25 indicate that, all the four child-centred teaching approaches had significant relationship ($p < 0.01$) with teaching and learning of creative activities in ECDE centres. Therefore, the fourth null hypothesis is rejected ($p < 0.01$). This implies that as teachers continue to use child-centred approaches, learners develop competencies in creative activities. The ECDE curriculum emphasizes that learning

should not take place only in the classroom but outside as well. This shows that among the four teaching and learning activities: child interest, child needs, activity based and child discovery instructional approaches. The study findings revealed that among the four methods, activity based approach had a more positive influence which was significant ($r=0.386$ and $p=0.001$) on teaching and learning of creative activities. This implies that teachers use of instruments, poetry, moulding and participation in co-curricular activities with pre-school learners, develop creativity skills in them.

In United States, Linder et al, (2011), observe that creative environments and resources that encourage natural curiosity and discovery in mathematics could also be further researched in an effort to address disparities in achievement that begin early. In a study done by Rotumoi and Too (2012), they found out that availability of play facilities was crucial as it determined children's socialization, coverage of activity areas and development of psychomotor skills. Secondly, study results reveal that there also existed significant positive relationship ($r=0.329$ and $p=0.001$) between teachers use of child interest learning approaches in teaching and learning of creative activities.

Thirdly, results also show a significant positive association ($r=0.323$ and $p=0.001$) between teachers use of discovery approaches and learners acquisition of creative skills in schools. Lastly, the research results also showed a significant relationship ($r=0.255$ and $p=0.001$) between teachers utilisation of child needs approach in teaching and learning of creative activities in schools.

From the above findings it is evident that there exist a significant positive correlation ($p<0.05$ & $p<0.01$) between teacher use of child-centred approaches and creative activities in ECDE schools in West Pokot County. This implies an increase in

teachers' usage of CCA in teaching and learning of creative activities in schools. The study findings coincide with Obuchere, Okello and Odungo (2014), who found out that the relevance of the play activities integrated in ECDE curriculum was found to be ranging from being used to teach various subjects like Physical Education, Music, Science, Social Studies, Mathematics, Art and Crafts and Languages to being used for entertainment, refreshment of minds and for physical development of the child. Thus, teachers need to consider the many different ways to promote and encourage each child's participation in the light of their individual abilities, confidence, and experience. Children will assess their situation, consider possible options, express their views, and therefore influence decision-making processes in myriad ways.

4.8 Determining Teachers Utilisation of Teaching Approaches in Classroom

Through open ended question, ECDE teachers were asked to give the utilisation of teaching approaches during classroom instructions. The answers given were coded and the results are given in Table 4.26.

Table 4.26 Factors influencing teachers' choice of learning method in classroom

Factor	Frequency	Percentage
a Instructional Materials	118	75.2
b Adequacy of instructional	24	15.3
c Infrastructure to support the use of instructional materials e.g. electricity	8	5.1
d Class size	3	1.9
e Lack of interest	2	1.3
f Lack of professional development	2	1.3
Total	157	100.0

As presented in Table 4.26, 75.2 % of the teachers indicated that availability of instructional resources for learning was the main factor determining the teaching

approach that ECDE teachers used in classroom teaching and learning process. Researcher observation showed that in all the pre-schools visited; most of the teaching materials indicated and observed were visual. Examples were flash cards, blackboard, and wall charts, bottle tops with letters written, picture books and reference books. This shows that when the resources are unavailable and scarce, teachers may not use certain child-centred teaching approaches. The findings are supported by head teachers interviewed where one of them said that:

“The factor that affects teachers’ choice in using child-centred approach is the availability of resources. If there are resources for teaching, teachers could use child-centred approaches.”

Another head teacher also said that:

“Child-centred approach requires a lot of teaching materials and teachers adequate preparedness which sometimes is a bit tricky to prepare in all subjects.”

This shows that teaching and learning resources availability and adequacy remain at the core of successful use of child-centred approaches in classrooms in ECDE centres in West Pokot County. The findings are inconsistent with Mmela (2010) who established that; lack of teaching and learning materials, especially text and lack of teacher’s skills to use the texts effectively, is a barrier to implementing the integrated literacy approaches in primary schools in Malawi. In addition, Wangui’s (2011) research in Kenya established that lack of adequate materials affected how children learn reading comprehension in English. Thus, the absence of reading materials, especially books and other text materials is a barrier to implementing child-centred approaches in teaching and learning. Child-centred approaches require that children

spend much time in the practice of reading and writing. Without texts and writing materials, teachers cannot provide practice to support children's numeracy and literacy skills thereby acquisition of reading and writing skills.

UNICEF (2012) in a research in Myanmar found out that although textbooks were present in many of the classrooms observed, they were rarely being used to promote active learning through individual research and participation in practical, problem-solving group activities. Where they were being used, they often formed part of textbook exercises in traditional whole class question and answer instruction and individual work. Many of the teachers observed were working in an environment of genuine constraints caused by lack of adequate investment in school buildings: schools lacked electricity, learning resources and other facilities.

Nearly 80% of the schools observed were multi-grade without walls or partitions between classes. Classrooms were often overcrowded, hot and noisy, with insufficient desks and chairs most of the buildings were in a poor state of repair, particularly in rural areas. Githinji and Kanga (2011) attributed this situation to some parental refusal to pay fees to ECDE centres in Kenya. They also found out that parents refused to contribute toward the building of ECDE. The results also shows that class size can also hinder utilisation of child-centred approaches. This concerns classroom organisation as the teacher does not get the opportunity to teach and attend to all of learners. In some ECDE schools visited by the researcher, the teacher to pupil ratio was very high (1:53) and in such a scenario, teachers cannot do an effective job if the ratio is too high.

In some schools, the classrooms are densely packed making is difficult for teachers and learners to move around freely as some activities require. Yet, the learner-centred

approach encourages learners' movement and engagement, physically and intellectually. The findings are also in agreement with Rotumoi and Too's (2012) research that showed that availability and adequacy of classroom space and the number of children a teacher handled were also found to have had great influence on the teaching methods the teacher adopted. Moreover, the head teachers noted that time for teaching is another factor influencing the use of child-centred approaches in classroom. One of the head teachers said that:

“Time for teaching is also limited, the teacher rotate in the two classes so one will consume time required for another subject.”

This shows that inadequacy of teaching staff in ECDE centres was another factor influencing teachers' use of child-centred approaches. Training and attitude of ECDE teachers also were also found to determine whether child-centred teaching methods were used or not. For example one head teacher opined that:

“Teachers are influenced by their attitudes towards their learners. Training also plays a major factor in the decision to choose teaching methodology.”

This shows that teachers' attitudes towards learners can help or hinder learning. Management and control of behaviour and attitudes has to be influenced by both groups involved in the learning process: teachers and learners. If pre-school learners are engaged, then good behaviour will be produced. The result coincide with Kang'ethe et al, (2015) who found out that the attitude towards ECD had contributed to poor implementation of the ECD policy, especially relating to the limited of provision of funds to enable permanent employment of all ECD teachers. In addition, the researchers observed that during the interview with the ministry of education officials, they decried the lack of prioritization of ECD matters in the ministry and treasury, especially among the ministry's finance personnel.

Furthermore, learners are very observant and aware of happenings in their schools. They observe that sometimes their teachers come to class in a bad mood, and they believe that sometimes the teacher is unnecessarily angry. Such anger explains why in some cases teachers use caning to discipline them. Still using open-ended questions, the ECDE teachers were further asked to give their perceptions on the use of child-centred approaches in teaching and learning in the classrooms. Their responses are presented in Table 4.27.

Table 4.27 Utilisation of child-centred approaches in teaching and learning in classroom

Statement	Frequency	Percent
a Concept is understood	110	70.1
b Aid in learning	22	14.0
c Helps learners to realise their ability in different areas	8	5.1
d Requires no field teaching aids	7	4.5
e No materials	7	4.5
f It is good because it is easy to realize the learners ability in different areas	3	1.9
Total	157	100.0

Findings in Table 4.27 illustrate 110 (70.1%) said that the utilisation of child centred approaches in teaching and learning ensured that the concept was understood and 22 (14.0%) of respondents perceived that child-centred approaches aid in learning. Others said that the utilisation of this approach enhanced understanding since it was easy to realize the learners' ability in different areas. From the above responses, teachers seem to support the use of child-centred teaching approaches in teaching and learning in preschools in West Pokot County. This information was also corroborated

with headteachers response who said that child-centred approaches are effective in enhancing the teaching and learning activities in ECDE centres.

4.9 Chapter Summary

This chapter has presented the findings of the study based on researcher's observation, data from interviews with head teachers and questionnaires from teachers. The results have shown that child-centred approaches are moderately utilised by pre-school teachers in the study area. This explains why there has been moderate acquisition of skills in mathematics, languages, science and creative activities by pre-school learners in public ECDE centres in West Pokot County.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study investigated Utilisation of child-centred approaches and their influence in teaching and learning activities in public ECDE centres in West Pokot County. This chapter presents the summary of the findings made in the previous chapter, conclusions and recommendations on the Utilisation of child-centred approaches and their influence on teaching and learning activities in public ECDE centres in West Pokot County. Finally, suggestions on how to improve the Utilisation of child-centred approaches in ECDE centres are presented.

5.2 Summary of Findings

The study was conducted in public ECDE centres in West Pokot County in the four sub-counties: West Pokot, Pokot North, Pokot Central and Pokot South. Data was collected through questionnaire, interviews and observations. Results showed that majority of the ECDE teachers had a teaching experience of more than 5 years. In most public ECDE schools around West Pokot, the environment was not conducive for learning as some children were learning under trees. The discussion in this section is on the summary of the findings and it follows the order of the research objectives that were:

1. To establish utilisation of child-centred approaches in teaching and learning of Mathematics activities in public ECDE Centres in West Pokot County.
2. To investigate utilisation of child-centred approaches in teaching and learning of Language activities in public ECDE Centres in West Pokot County.

3. To determine utilisation of child-centred approaches in teaching and learning of Science activities in public ECDE Centres in West Pokot County.
4. To assess utilisation of child-centred approaches in teaching and learning Creative activities in public ECDE in West Pokot County.

The evolution of theories concurs that, ECDE curricula are based on a constructivist paradigm which provides the theoretical framework for pre-school environments and instructional strategies. In typical early childhood classrooms, a developmentally appropriate environment is one in which children are provided with opportunities to explore and manipulate objects, test and retest theories and construct knowledge. Developmentally appropriate teaching strategies imply that environments have multiple sources and choices from which children can gain information and advance their understanding of concepts. Learner-centered teachers are guides, facilitators, and designers of learning experiences. They are not the main performers, the ones working harder than everyone else to make it all happen.

The results of this study shows that the most widely used child-centred approach was child discovery ($M=4.60$ and $SD=0.60$) followed by child needs approach ($M=3.74$ and $SD=0.41$). This suggests that most teachers commonly use discovery and needs approach to teach learners in the ECDE in the study area. However, the other two methods were found to be occasionally used by teachers in ECDE classrooms: child interest approach ($M=3.31$ and $SD=0.48$) and activity based approach ($M=3.19$ and $SD=0.54$). From the above findings, it is evident that not all teachers used the recommended approaches in teaching ECDE children in West Pokot County.

An observation conducted by the researcher reveals that some teachers preferred learners working in groups during the learning process. This is because child-centred

approach theories suggest that learners are expected to be able to demonstrate high level of social working relation and cooperation. Through working together in groups or in pairs they develop social skills which assist in gaining knowledge in the classroom and later in life. The child-centred teaching approach allows learners of different abilities to work together and promotes the building of knowledge. The findings indicate the main purpose of having child-centred teaching strategies is to help learners to work cooperatively in pairs or as a group and to build their own knowledge rather than being given such knowledge.

In this way, the approach discourages competition but fosters team and group work. Most importantly, group or whole class learning aids in the development of social skills such as communication, presentation, problem-solving, leadership, delegation and organisation. However, the research findings revealed that some learner-centred approaches could not be used due to lack of experience and competency among ECDE teachers. In addition, some failed to use the recommended approaches due to non-availability of adequate and required instructional resources. In general, the results showed that child-centred approaches were occasionally used by ECDE teachers in the study area.

5.2.1 Utilisation of Child-Centred Approaches in Teaching and Learning of Mathematics Activities in Public ECDE Centres in West Pokot County

The first objective of the study was to determine the utilisation of child-centred approaches in teaching and learning of Mathematics in public ECDE centres in West County, Kenya. The results of the study revealed that when children are exposed to mathematics activities through use of child-centred approaches, it helps them to build their skills that would help them in future studies. The first research hypothesis was

rejected ($p < 0.01$) leading to the conclusion that there existed significant positive relationship between utilisation of child centred approaches and teaching and learning of mathematics in public ECDE centres in West Pokot County. The research results revealed that there existed a positive degree of association which was significant between teacher's frequency of use of child-centred approaches in teaching and learning of mathematics activities in ECDE centres in West Pokot County. The study revealed that increasing children's exposure to the use of mathematics language provides the foundation from which more formal mathematical skills can be built.

However, the research statistics computed showed that the relationship was weak positive and this could be due to the challenges that ECDE teachers are facing in most of public ECDE centres in the county. Among the mentioned challenges were lack of adequate materials, inadequate teachers, and high poverty among the residents, malnutrition, constant absenteeism and low teacher morale. Despite the shortcomings, the results are positive suggesting that when teachers continuously use various child-centred approaches geared towards improving mathematics teaching and learning, learners' numeracy skills do improve. This helps learners to recognise mathematical shapes, draw those shapes and conduct simple mathematics activities (summation, addition and division).

5.2.2 Utilisation of Child-Centred Approaches in Teaching and Learning of Language Activities in Public ECDE centres in West Pokot County

The second objective of the research study was to investigate Utilisation of child-centred approaches in teaching and learning of language activities in public ECDE centres in West Pokot County. From the study findings, it showed that teaching and learning of language activities was on moderate level with more than (54.1%) of

teachers indicating that learners were able to write their names correctly with less difficulties. This must have been contributed partly by teachers' utilisation of child-centred approaches.

To confirm the assertion made, computed Karl Pearson Product Moment Correlation statistics revealed that there existed a positive degree of association which was significant ($p < 0.01$ and $p < 0.05$) between ECDE teachers Utilisation of child-centred approaches in teaching and learning of language activities. This led to rejection of the third null hypothesis at two probability interval periods ($p < 0.05$ and $p < 0.01$). This implied that for the teachers who regularly used child-centred approaches, their learners were able to develop language competencies in writing, spelling, speaking and even in pronunciation. The study findings showed that songs and poetry were used by teachers to teach language skills in pre-schools in the study area. This implies that by use of songs, music and dances, learners are introduced to cultural information and characteristics; and helps learners to develop and strengthen oral and reading skills by learning new vocabulary.

5.2.3 Utilisation of Child-Centred Approaches in Teaching and Learning of Science Activities in Public ECDE centres in West Pokot County

Scientific knowledge is important in our daily lives. The ECDE curriculum is designed to ensure that learners are grounded with scientific knowledge by the time they are finishing nursery school. When learners develop interest in science activities while they are still in nursery schools, the country is sure of getting future doctors, engineers, physicians, environmentalist, and botanists among others. Therefore, the use of child-centred approaches is supposed to increase learners' intrinsic motivation to learn scientific ideas while still young. This study sought to determine the degree to

which child-centred approaches were being used by ECDE teachers in the teaching and learning of Science activities in public ECDE centres in West Pokot County.

Computed correlation statistics showed that there existed positive relationship between child-centred approaches in teaching and learning of science activities in ECDE. The third null hypothesis was rejected at 95.0% and 99.0% confidence levels. This led to the deduction that ECDE teachers continuous use of child-centred approaches would translate to effective teaching and learning of science activities in ECDE centres in the study area.

Through the use of child-centred approaches, the teaching activities would translate to learners ability to experiment, classify; plants, animals, birds and fish, observe weather patterns, shadows (morning, afternoon, evening and night), use hands to make objects and to draw and differentiate natural features and environment is average. Thus, throughout ECDE level, children develop and refine their scientific abilities through observing, inquiring, and experimenting using rich and inviting opportunities. Most of the pre-school science activities are composed of research, experimentation activities and thus can be easily adapted into pupil-centred teaching. Therefore, constructivist education approach can be applied effectively in pre-school science activities.

5.2.4 Utilisation of Child-Centred Approaches in Teaching and Learning of Creative Activities in Public ECDE Centres in West Pokot County

Jean Piaget developmental theory suggests that knowledge arises from an interaction between the child's mental structure and the environment. He contended that learning takes place as the active child explores and manipulates the real world of objects and events. Therefore this can be accomplished through teacher interaction with learners

in the teaching and learning process through being involved in creative activities such as songs, drama, plays and artistry work. Results of the study revealed that there existed a significant positive relationship ($p < 0.01$) between teachers use of child-centred approaches in teaching and learning of Creative activities in public ECDE schools in West Pokot County.

The fourth null hypothesis was rejected. The Pearson correlation statistics was weak, implying that teachers may be using teacher-centred approaches rather than child-centred ones thereby inhibiting learners understanding of Creative activities in schools. Despite that, the statistics are encouraging bearing in mind that through teachers' continuous use of child-centred approaches; learners will improve their competencies and skills in performing plays, dramas and music while developing their artistry talents in drawing, painting and moulding that are critical in ECDE pupils learning.

5.3 Conclusions

Through utilisation of child-centred approaches by teachers, ECDE learners enjoy and appreciate what and how they learn. They value sharing their knowledge with others, they can practice their communication skills freely and, in some cases they are able to study independently. By working in different ways they can build a range of skills they need as individuals in mathematics, languages, science and creative skills. The study findings revealed that the four child-centred teaching approaches are often ($M=3.52$ and $SD=0.51$) utilized by ECDE teachers in teaching and learning activities in public ECDE centres in West Pokot County.

It was found that the child discovery and child needs approaches were most preferred by most of teachers in ECDE in West Pokot County. In most schools, it was

established that teachers' choice of teaching approaches was mainly dictated by the resources available as per 76.2% of teachers. The teaching and learning activities in most of the ECDE centres were aimed at inculcating learners with knowledge on mathematics, languages, science and creative activities. In addition, environmental and religious courses were also taught in ECDE centres as part of curriculum.

With regard to the first objective of the research, it was established that the utilisation of child-centred approaches by teachers in the teaching and learning had a positive influence on Mathematics activities in ECDE centres. The Pearson correlation statistics appeared to be positive suggesting that teachers did not regularly utilize learner centred approaches in teaching and learning. However, the results appeared to be significant ($p < 0.05$) and this implied that when teachers continuously used child-centred approaches of discovery method, interest method and needs approach, learners' numerical skills of counting, additions and subtraction improved.

Secondly, utilisation of child-centred approaches in teaching and learning of language activities was practiced by moderate number of teachers in public ECDE centres in West Pokot County. Moreover, correlation results showed that there existed positive relationship between teachers' use of child-centred approaches in teaching and learning of language activities by ECDE teachers. This helped learners to develop skills in reading, writing, spelling, pronunciation and even identification of letters of the alphabet. The acquisition of these competencies by ECDE children would help them to express, communicate and even develop writing skills helpful in learning other subjects. This leads to the conclusion that teachers need to be emphasising these skills in daily language lessons.

Science is essential in the national development of any country. Teaching and learning of Science enables the ECDE learners to understand the world around them and be curious in nature. The desired goals of science in the early childhood curriculum include what we hope children will attain or achieve in three different areas: content, processes, and attitudes or dispositions. These all are accomplished when child-centred approaches are used for the purpose of improving science teaching methods. There existed a positive degree of influence on the utilisation of child-centred approaches in the teaching and learning of science activities in ECDE which was significant at 99% confidence level. The statistics suggested that learners' ability to experiment, classify, observe, use their hands and differentiate natural features and environment could be adequately developed and enhanced if teachers would regularly use child-centred teaching method of discovery learning approach.

Lastly, learners were moderately involved in activities of singing, plays, dramatization, drawing, painting, sculpturing and singing. These activities are perceived as simulated reality. They were used by teachers as part of child-centred teaching approach. Computed correlation statistics showed that there existed a positive degree of association which was significant ($p < 0.01$). This implied that teachers' incessant utilisation of child-centred teaching approaches affected the teaching and learning of Creative activities in public ECDE centres in West Pokot County.

Child-centred teaching approaches produce learners that are fully engaged, learners that manage themselves and others, learners that use social skills, learners that think creatively to solve problems and learners that possess independence skills. Teachers observed that when learners were actively engaged, they developed a deeper

understanding which helped them to see the connections in their learning. It therefore became easier for learners to recall what they participated. Sensitizing teachers on issues concerning the overall development of children helped them to provide consistent stimulating school environment and maintain consistent and positive teacher-child interactions

5.4 Recommendations

Utilisation of child-centred approaches had a significant influence on teaching and learning process in public ECDE centres in West Pokot County. However, despite having significant influence ($p < 0.01$) the correlations were below 0.5 suggesting that there is need for improvement in policy and action. The recommendations for the study capture various stakeholders such as school management, teachers, parents, ministry of education, and county government among other stakeholders involved in ECDE education. The following are the recommendations:

- (i) To improve on teaching and learning of Mathematics activities in ECDE, there is a need for the school management to adequately provide instructional resources so that teachers may shift their approaches from teacher-centred to learner-centred. ECDE teachers need to ensure that teaching of Mathematics should be based more on participatory practices in which the learners are active in discussions, explorations and problem solving in small groups. The teaching and learning activities should provide learners with opportunities to develop their ability to discuss and explain their thoughts, which develop their numeracy skills. The teachers need also to consider utilising locally available materials as stipulated in ECDE curriculum.
- (ii) There is need for schools to fully implement the language policy as per the Ministry of Education guidelines at all public ECDE in West Pokot County.

Thematic instruction, graphic designs and other established pupil-centred strategies could be used in an integrated manner if regular inspection will be conducted in public ECDE centres. Moreover, during language instruction, teachers need to implement activities by starting from local to regional and global. Teachers also need to be re-trained through in-service courses to improve their pedagogical skills in teaching approaches. The support may come from parents, school management, national or even county government. It is evident that teacher training will develop and equip teacher trainees with a variety of skills on the use of child-centred approaches. The methods suggested in the current ECDE syllabus are not exhaustive; there can be additional ones. This provides room for further consideration, and also rings a warning bell on the need to review the curriculum for teacher education, so that teachers are fully equipped with necessary child-centred learning approaches.

- (iii) To improve on the effective teaching and learning of Science activities, there is need for teachers to ensure that learners are not passive in classrooms but consider interaction with the natural world (active learning). It is important that ECDE teachers adopt constructivist approach when preparing for instruction in science in ECDE in order to bring up a new generation of scientists. Parents need to support ECDE centres to purchase reference books in which sample science syllabi and activities based on constructivist approach are provided. To foster scientific thinking, teachers should view young children as active learners (versus recipients of knowledge) and give them varied opportunities to explore and experiment. Such opportunities can allow children to construct meaning and develop understandings that are not only

valid but also valuable to their on-going intellectual development. Moreover, teachers need to consider organising classroom learning content in order to capture learner attention in Science activities.

- (iv) There is need for teachers to widen their scope in the teaching of creative activities by incorporating more of child-centred activities. In addition, teachers need to ensure they manipulate available resources to enhance learning (improvisation locally available materials) that are interesting, motivating, topical and stimulating. It is advisable that teachers, head teachers and parents provide a variety of audio-visuals educational media to promote learners interest in learning. For instance, after reading activities, learners can draw what they understood from the materials read or can role-play or simulate what they have read. Apart from that, learners can also take part in drama, in which they can either compose, or base on a genre they are reading. In doing so, they will understand the text better while learning it in an interesting manner.

5.5 Suggestions for Future Research

Based on the findings of the study the researcher suggests the following for further research.

1. A similar study on utilisation of child-centred approaches in teaching and learning activities in public ECDE Centres should be done in other areas of the Country (Kenya).
2. A similar study on the utilisation of child-centred approaches in teaching and learning activities can be conducted in private ECDE centres in West Pokot County.

3. A study needs to be conducted on the factors influencing teachers' choice of child-centred approaches in ECDE centres
4. A study needs to be carried out on the influence of government policy on teaching and learning activities in public ECDEs.

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APPENDICES

Appendix I: Introduction Letter

RE: REQUEST TO PARTICIPATE IN RESEARCH

Dear respondent,

I am a student at University of Eldoret undertaking Doctorate degree in Philosophy of Education. In order to fulfil my course requirements, I am supposed to conduct a research related to my field of study. Therefore, the purpose of this questionnaire is to seek your opinion on “Utilisation of Child-centred Approaches in teaching and Learning Activities in Public ECDE Centres in West Pokot County, Kenya”. I am therefore requesting you to answer all questions presented in this paper. For close ended questions, you are supposed to tick (✓) in the options provided to you and also write your write your opinion/views in the open spaces provided.

Please do not write your name or name of your school in this questionnaire booklet. I guarantee that the responses you will give will be treated with utmost confidentiality considering that this is an academic work.

Thanks in advance for your co-operation.

Nelly Andiemma

PhD Student

University of Eldoret

Appendix II: Questionnaire for Teachers

Instructions:

You are kindly requested to tick [] the correct alternative and fill in the spaces where applicable.

Section A: Background Information

Fill and tick honestly where appropriate.

1. What is your gender?

Male [] Female []

2. What is the type of your ECDE Centre?

Private ECDE [] Public ECDE []

3. What is your teaching experience?

1 – 5 years [] 6 – 10 years [] 11 – 15 years []

16 – 20 years [] 21 – 25 years [] 25 years []

4. What is the highest level of your academic qualifications?

B. Ed [] Dip Education [] Certificate [] PI []

Others,

Specify.....

Section B: Utilisation of child-centred approaches in teaching and learning activities in ECDE centres

5. The following section seeks your opinion on the degree to which you use child-centred approaches in teaching and learning activities in your institution. Use the following scale to rate your response; A-Always, O-Often, S-Sometimes, R-Rarely and N-Never.

No.	Utilisation	Use of CCA method				
		Always	Often	Sometimes	Rarely	Never
I. Child needs approach						
a	I take every opportunity to have individual conversations with learners					
b	I pay attention to a child who is telling me something					

c	I maintain supervision and awareness of what is going on around while at the sometime engaging with the child					
d	I spend time just watching learners interact with others and engage with the material					
e	I make notes so that I can remember and make constructive use of the information					
f	I listen to children's conversations					
II	Child interest approach					
a	I use/select teaching and learning materials which learners show interest					
b	I usually assess learners' interests before commencing my lessons					
c	I like teaching using learners' experiences.					
d	I use decorative activities in classroom teaching.					
e	I give the opportunity for learners to learn what they like most.					
III	Child discovery approach					
a	I use print work of fine art, such as solar system and encourage learners to study the painting and create their own interpretation of it.					
b	I allow learners in my class to be self-driven.					
c	When reading a story to learners, I pause throughout the					

	story to ask questions about what they believe will happen next.					
d	I challenge learners to explore and discover new things.					
e	I teach learners using real life experiences as it keeps them joyful.					
IV	Activity based approach					
a	I engage and participate with learners in the playing field.					
b	I spare time for creative activities.					
c	I involve poetry in my lessons.					
d	I provide clay/plasticine materials for art learning.					
e	I use sound instruments when teaching music e.g. drums, flute (pipes), horns, sticks & whistles.					

6. What informs you to decide on which method to use and apply in the teaching and learning activities? _____

7. What are your perceptions on the use of child-centred approaches in teaching and learning process? _____

Section C: Teaching and learning activities

8. This section seeks your opinion as a teacher on learners' level of competencies in Mathematics, Language, Science and Creative activities in schools as; V-Very High, H-High, A-Average, BA-Below Average and P-Poor. Mark your choice using a tick where necessary in the spaces provided.

No.	Activities	Rating on the learning activities				
		VH	H	A	BA	P
I	Mathematics Activities					
a	Ability of learners to count					
b	Ability of learners to conduct summation activities					
c	Learners ability to do subtraction activities					
d	Learners ability to recognise mathematical shapes					
e	Learners ability to draw mathematical shapes like; rectangle, triangle, circle and square					
II	Language Activities					
a	Learners ability to write their names correctly					
b	Learners ability to identification of alphabets (order)					
c	Learners ability to speak in English and Kiswahili					
d	Learners ability to pronounce words					
e	Learners ability to spell correctly					
III	Science Activities					
a	Learners ability to experiment e.g. water channelling					
b	Learners ability to classify; plants, animals, birds and fishes					
c	Learners ability to observe e.g. weather patterns, shadows (morning, afternoon, evening and night)					
d	Learners ability to use their hands to make objects					
e	Learners ability to draw and differentiate natural features and environment					
IV	Creative Activities					
a	Learners ability to play with different objects e.g. blocks					
b	Learners ability to draw and paint objects					
c	Learners ability to sing					
d	Learners ability to dramatize (role play)					
e	Learners ability to construct/mould objects e.g. sculptor					

9. What is your opinion on the influence of child-centred approaches in teaching and learning activities in your class (Impact on learners) _____

10. What are the challenges that you experience in using child-centred approaches in teaching and learning activities at your ECDE? _____

The end

Thank you

Appendix III: Interview Guide for Headteachers

Dear Sir/Madam,

I am Nelly Cherop Andiemba a Doctoral of Philosophy of Education student from University of Eldoret. I am carrying out a research on “Utilisation of Child-centred Approaches in teaching and Learning Activities in Public ECDE Centres in West Pokot County, Kenya”. Welcome to this interview session. I am going to ask you questions on the above mentioned topic. Please note that the information you provide will be treated with utmost confidentiality and will be only be used for the purpose of these study. Please feel free and respond appropriately. To begin with:

The following questions will guide us in this interview.

Questions

1. What is the status of ECDE learners in your school? In terms of population, number of teachers (qualification), facilities (classrooms, grounds, desks, tables) and resources available for teaching and learning process?(Ask a probing question.)

2. What are the common methods used by ECDE teachers in teaching and learning activities in your ECDE centre? (Ask a probing question.)

3. To what extent are child-centred approaches used in teaching and learning activities in your ECDE centre? (Ask a probing question.)

4. What is the effectiveness of child-centred approaches on learners' acquisition of mathematics, language, creative and science competencies in school? (Ask a probing question.)

5. Do you conduct supervision on teachers' classroom teaching? (Ask a probing question.)

6. What factors affect teacher's choice in using child-centred approaches in teaching and learning? (Ask a probing question.)

7. How can child-centred approaches in teaching be improved? (Ask a probing question.)

We have come to the end of the interview session.

Thank you for your co-operation

Appendix IV: Observation Guide

School Code: _____

Date and time of observation: _____

Section A: Utilisation of Child-Centred Approaches in Classroom

No.	What observed	Frequency of utilisation					Comment
		N	R	S	O	A	
I	Child needs approach						
a	Do learners make notes?						
b	Are learners good listeners?						
c	Are learners' observing what they are being taught?						
d	Do teachers spend time with learners?						
e	Do teachers supervise learners?						
f	Are teacher aware of learners needs?						
II	Child Discovery Approach						
a	Do teacher spare time for creative activities?						
b	Do teachers use creative lessons?						
c	Do teachers use child discovery approach?						
d	Do teacher use print work of fine art?						
e	Do teachers read stories to learners?						
f	Do teachers give learners to experiment with different types of building materials?						
III	Child interest approach						
a	Do teacher select teaching and learning material that interest learners?						
b	Do teachers assessing learners' interest?						
c	Do teachers use what learners like?						
d	Do learners use decorative activities?						
e	Do learners write a list of what they do?						
IV	Activity based approach						
a	Do teachers live time for creative activities?						
b	Are teachers teaching through play?						
c	Are learners creating models by themselves						
d	What is the time allowed for creative activities?						
e	Are instruments (realia) used in creative activities						

Key: *N-Never, R-Rarely, S-Sometimes, O-Often and A-Always.*

Section B: Rating of teaching and learning activities

No.	Utilisation	Rating on the learning activities				
		L	BA	A	H	VH
I Math activities						
a	Ability of learners to count					
b	Ability of learners to conduct summation activities					
c	Learners ability to do subtraction activities					
d	Learners ability to recognise mathematical shapes					
e	Learners ability to draw mathematical shapes like; rectangle, triangle, circle and square					
II Language activities						
a	Learners ability to write their names correctly					
b	Learners ability to identification of alphabets (order)					
c	Learners ability to speak in English and Kiswahili					
d	Learners ability to pronounce words					
e	Learners ability to match words					
III Science activities						
a	Learners ability to experiment e.g. water channelling					
b	Learners ability to classify; plants, animals, birds and fishes					
c	Learners ability to observe e.g. weather patterns, shadows (morning, afternoon, evening and night)					
d	Learners ability to use their hands to make objects					
e	Learners ability to draw and differentiate natural features and environment					
IV Creative activities						
a	Learners ability to play with different objects e.g. blocks					
b	Learners ability to draw and paint objects					
c	Learners ability to sing					
d	Learners ability to dramatise (role play)					
e	Learners ability to construct/mould objects e.g. sculptor					

Key: L-Low, BA-Below average, A-Average, H-High and VH-Very High

Appendix V: Content Validity Index

	Total No. of questions	Exp 1	Exp 2	Exp 3	Exp 4	Exp 5	CVI		Decision
Section A	23								
Section B	22								
Total	45								

Key: Exp-Expert

Appendix VI: Sample of Interview Extracts

Head Teacher from School 1

1. What is the status of ECDE learners in your school? In terms of population, number of teachers (qualification), facilities (classrooms, grounds, desks, tables) and resources available for teaching and learning process?(Ask a probing question.)

1. The school has two ECDE teachers; one diploma holder while the other one certificate holder. The school has two ECDE classrooms; baby class are taught alone while middle class and top are combined together because the school have no enough classroom and parents are not able to pay for the 3 teachers.

- The ECDE has not enough desks, tables but learners squeeze each other on the few facilities

2. What are the common methods used by ECDE teachers in teaching and learning activities in your ECDE centre? (Ask a probing question.)

The common method of teacher is teacher cantered because of lack of facilities.

3. To what extent are child-centred approaches used in teaching and learning activities in your ECDE centre? (Ask a probing question.)

Child-centred approach method is used in some subjects while mathematics and science activities because the resources for science and maths entails counters like stones, counters which are easily available.

4. What is the effectiveness of child-centred approaches on learners' acquisition of mathematics, language, creative and science competencies in school? (Ask a probing question.)

Child-centred approach has not been effectively used because of lack of enough resources so most teachers prefer using teacher centred method which does not require a lot of teaching resources.

5. How frequent do you conduct supervision on teachers' classroom teaching? (Ask a probing question.)

I often conduct supervision in ECDE entre, the common problem being learners are not able to speak in English and then cannot read most words in the language.

6. What factors affect teacher's choice in using child-centred approaches in teaching and learning? (Ask a probing question.)

The factor that affects teachers' choice in using child-centred approach i.e availability of resources. If there are resources for teaching teachers could use child-centred approaches.

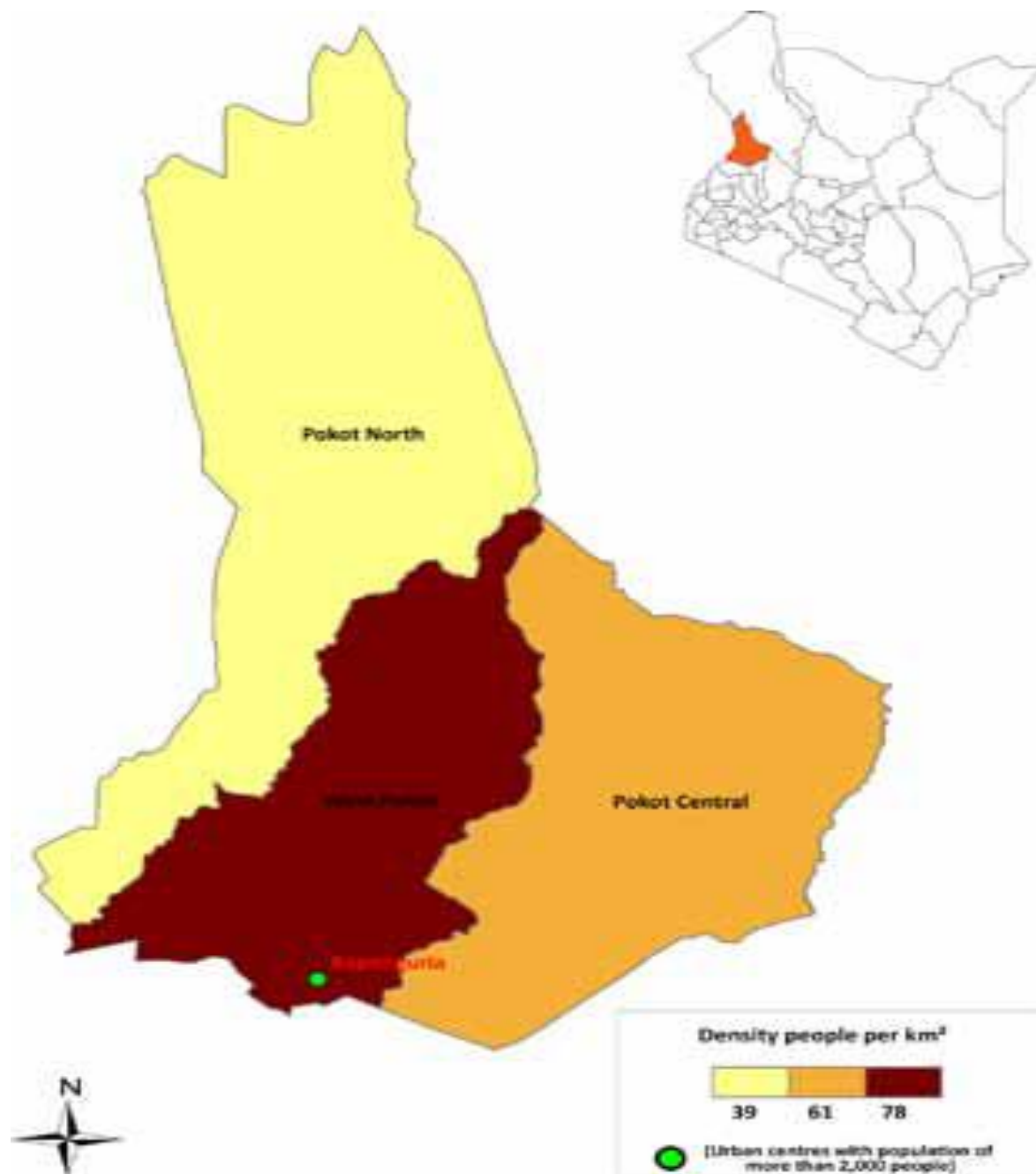
- Time for teaching is also limited, the teacher rotate in the 2 classes so one will consume time required for another subject.

7. How can child-centred approaches in teaching be improved? (Ask a probing question.)

Child-centred approach is good approach, it needs a lot of resources, so the administration should provide enough resources in ECDE


- Teachers need to prepare enough for child-centred approach method to be effective

- Parents should contribute

Appendix VII: West Pokot County Map

Source: GOK, 2015

Appendix VIII: UOE Letter for Data Collection


University of Eldoret
Source of knowledge and innovation

P.O. Box 1125-30100,
 ELDORET, Kenya
 Tel: 053-2063111 Ext. 242
 Fax No. 20-2141257

Our Ref: UOE/SOE/TED/13

26TH OCTOBER, 2015

The Executive Secretary,
 National Council for Science and Technology,
 P.O. BOX 30623-00100,
NAIROBI.

Dear Sir/Madam,


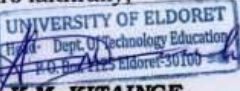
RE: RESEARCH PERMIT FOR: NELLY CHEROP ANDIEMA REG NO: EDU/PHD/EPE/004/14

This is to confirm that the above named Post Graduate Student has completed Course work and has successfully defended her thesis proposal.

She is currently preparing for a field research work on his thesis entitled: ***"Application of child centered approaches in teaching and learning activities in public Early Childhood Education in Pokot County, Kenya"***. The proposal has been approved by this Institution.

Any assistance accorded her to facilitate successful conduct of the research and the publication will be highly appreciated.

Yours faithfully,

DR. K.M. KITAINGE
HEAD, TECHNOLOGY EDUCATION DEPARTMENT

Copy to: Permanent Secretary,
 Ministry of Higher Education, Science & Technology,
 P.O. Box 9583-00200,
NAIROBI.

Appendix IX: Research Authorisation Letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/15/69181/8573**

Date:
8th December, 2015

Nelly Cherop Andiemu
University of Eldoret
P.O. Box 1125-30100
ELDORET.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Application of child centred approaches on teaching and learning activities in Early Childhood Education Centres in West Pokot County, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **West Pokot County** for a period ending **8th December, 2016**.

You are advised to report to **the County Commissioner and the County Director of Education, West Pokot County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
West Pokot County.

The County Director of Education
West Pokot County.

Appendix XI: MOE Research Approval Letter

REPUBLIC OF KENYA



**MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY
STATE DEPARTMENT OF EDUCATION**

-Email: elimu\cdwestpokot@education.go.ke
Web: www.education.go.ke
-cdwestpokot@yahoo.com.
When replying please quote date & Ref.

COUNTY EDUCATION OFFICE
WEST POKOT COUNTY
P.O. BOX 17
KAPENGURIA.

1st February, 2016

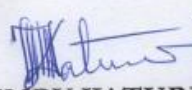
REF: WPC/EDUC/ADM/15/20/VOL.1/24

M/S Nelly Cherop Andiema
University of Eldoret
P.o. Box
ELDORET

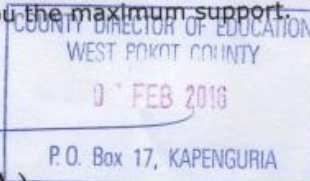
RE: RESEARCH AUTHORITY

Following your authorization from the National Council for Science and Technology, I hereby permit you to carry out research on
" Application of child centred approaches on teaching and learning activities in Early childhood of Education Centres in West Pokot County" for a period ending 8th December, 2016.

Through this letter, all public administration officers are kindly requested to accord you the maximum support.


(HENRY KATURIA)

**FOR' COUNTY DIRECTOR OF EDUCATION
WEST POKOT COUNTY.**



Appendix XII: County Commissioner Approval Letter



**THE PRESIDENCY
MINISTRY OF INTERIOR AND CO-ORDINATION
OF NATIONAL GOVERNMENT**

Telegrams; DISTRICTER' Kapenguria
Telephone; kapenguria 054-62291
Radio call; kape 5ZRO

Office of the County Commissioner,
West Pokot County,
P.o. BOX 1,
KAPENGURIA,

Email: westpokotland@rocketmail.com

REF:OOP.CC.ADM.15/14 VOL.I/31

12th January, 2016


TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION
M/S NELLY CHEROP ANDIEMA

Reference is made to the Director-General/CEO, National Commission for Science, Technology and innovation letter NO. NACOSTI/P/15/69181/8573 dated 8th December, 2015.

The above named is a student at University of Eldoret and has been authorized to carry out research on "*Application of child centred approaches on teaching and learning activities in Early Childhood Education Centres in West Pokot County*" for a period ending 8th December, 2016.

Please accord her your cooperation and necessary assistance she may require while undertaking the exercise.


HEZRON M. NYAMBERI
For: COUNTY COMMISSIONER
WEST POKOT COUNTY



cc. County Director of Education
WEST POKOT COUNTY