

**INFLUENCE OF CLASSROOM ENVIRONMENT ON CHILDREN'S ACADEMIC
PERFORMANCE IN PUBLIC ECDE SCHOOLS IN KEIYO NORTH SUB-
COUNTY, ELGEYO MARAKWET COUNTY, KENYA**

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**A Thesis Submitted In Partial Fulfilment Of The Requirements For The Award Of
The Degree Of Master Of Education In The Department Of Education, School Of
Humanities And Social Sciences, Africa Nazarene University**

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DECLARATION

I declare that this research document describes my original work and that it has not been presented in any other university for academic work

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DEDICATION

I dedicate project to my late parents Thomas and Hellen for starting this education journey and their encouragement and inspiration since my growing up. They thought it wise to take me to good schools and I wish they would see the fruits of their efforts.

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To you all I say “Kongoi missing”

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ABSTRACT

Realization of the objectives of basic education in Kenya, according to Kenyan Education Sector Support Programme, reveals the need to reconsider several aspects of the National Education implementation process. Many factors, related to implementation systems, continue to affect the achievement of quality education for all learners hence frustrating objectives of vision 2030. This study intended to investigate how classroom environment influences children's academic performance in the public ECDE schools in Keiyo North Sub-county. The objectives of the study were: to establish the influence of teacher-learner activities on children's academic performance in public ECDE Centres in Keiyo North sub-county, to examine the influence of teaching methods on children's academic performance in public ECDE Centres in Keiyo North sub-county, to determine the influence of adequacy of teaching/learning resources on children's academic performance in public ECDE Centres in Keiyo North sub-county and lastly to assess the influence of class number of children on children's academic performance in public ECDE Centres in Keiyo North sub-county. The study was anchored within tenets of Constructivism theory and adopted the approaches of descriptive survey research design. The target population was 105 respondents with a sample size of 83 respondents. All pupils in PP2 participated in the research test. Data for the study was sought using questionnaires, lesson observation and observation check lists. A pilot exercise was undertaken in order to find checks that ensured validity and reliability of the study. Data analysis was done using descriptive and inferential statistics. The study findings revealed that teacher learner activities have a positive and significant influence on children academic performance ($\beta_1=.124$, $p<0.05$). It was further established that teaching methods has a positive and significant influence on children's academic performance ($\beta_2=.287$, $p<0.05$). Adequacy of teaching/learning resources was found to have a positive and significant influence on children academic performance ($\beta_3=.286$, $p<0.05$). Finally, Class number of children was found to have a positive and significant influence on children's academic performance since an exercise was administered by the researcher to all the learners in the sampled 21 schools. ($\beta_4=.252$, $p<0.05$). The study concluded that ECDE teachers use, counting, singing, drawing, coloring, painting, modeling, weaving and dancing when teaching in class. Methods used by teachers to teach were; storytelling, observations, field trips, singing, dramatization, class experiments, reciting rhymes, audio visuals, reciting poems, open ended questions and resource persons, hence all this greatly improved academic performance of learners. The study recommends that the ECDE teacher should be conversant with the content delivered and select the best required and useful activities to communicate the content to the pupils effectively hence improve academic performance. The ECDE teachers should appropriately choose a model of teaching and the learning environment will determine the fun and enjoyment of lesson and will indirectly improve children's academic performance.

ABBREVIATIONS AND ACRONYMS

BOM	Board of Management
CAT	Continuous Assessment Test
CDE	County Director of Education
CIRT	Centre for Innovation in Research and Teaching
CSO	Curriculum Support Officer
DICECE	District Centre for Early Childhood Education
ECDE	Early Childhood Development Education
EFA	Education for All
FPE	Free Primary Education
GOK	Government of Kenya
KCPE	Kenya Certificate of Primary Education
KESSEP	Kenya Education Sector Support Program
KNUT	Kenya National Union of Teachers
MDG	Millennium Development Goals
MOEST	Ministry of Education Science and Technology
NACOSTI	National Commission for Science Technology and Innovation
NCTE	National Council for Teacher Education
OST	Open System Theory
ROK	Republic of Kenya
SACMEQ	South Africa Consortium for Monitoring Education Quality
SCDE	Sub-County Director of Education
SPSS	Statistical Package for Social Sciences

TTC Teacher Training College

UNICEF United Nations Children Education Fund

OPERATIONAL DEFINITION OF TERMS

Classroom:	A room where pupils or students learn.
Classroom environment:	The social climate, the emotional and the physical surrounding of the classroom
Instructions:	Detailed information about how something should be done in classroom.
Instructional Materials:	All resources and materials that ECDE teachers require in an ECDE class to facilitate effective learning.
Instructional Resources:	These are materials that are used by the teachers to aid them in facilitating effective learning
Interactions: –	Influence of classroom size on instruction longevity reasons
Maintenance:-	the act of proper keeping and utilisation teaching learning resources
Materials: -	The teaching resources teachers use to deliver instructions.
Academic Performance:-	This is the completion of a task with application of knowledge, skills and abilities.
Physical Facilities	: Infrastructure and resources in schools that are used to bring comfort to a pre-schooler. They include, classrooms and toilets among others.
Pre-school	: An educational establishment that offers learning in ECDE education to young children of age 3-6 before they begin compulsory education at primary school

- Public schools** Refers to a no-fee school, funded and operated by the government
- Teacher support:-** The wide variety of instructional methods or teaching resources provided to students in the effort to help them accelerate their learning progress and meet learning standards or generally succeed in school.
- Teaching: -** process of learning in a classroom.
- Teaching learning activities:** The techniques, procedures and processes that a teacher uses during instruction while learning activities refer to the teacher guided instructional tasks or assignments for students.
- Teaching methods:-** The general principles, pedagogical strategies and approaches used for classroom instruction.

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

This chapter presents overview of background of study ,statement of the problem, objectives of the study, hypothesis, significance, scope, delimitation, limitation, assumption, theoretical framework and conceptual framework.

1.2 Background of the Study

A classroom environment is a combination of factors in the school that influence the process of instruction for learners. This includes libraries, classrooms, technical workshops, teachers, teaching methods; just to mention a few among other variables that influence the process of teaching-learning in school (Mobegi, 2017). This further affects the improvement of the approach and the extent to which pupils learn can only be realized depending on what the school provides to the pupils and teachers. It has been believed that a school that is well-organized will achieve good results and leads to improved academic performance of the children (Mobegi, 2017).

Globally, education is seen as stimulant for socio-economic growth according to sources from various government information and scholars (ROK, 2007; Bornstein, & Bradley, 2014). Van Lancker (2013) opines that, if a nation is not able to educate its citizens, then it is planning for failure as development shall be compromised. In addition, Biesta (2015) asserts that education as an important component in the community which determines the character and social economic growth of a Nation. Quality instruction in ECDE schools is a critical area in many Nations hence lot of resources are channelled to

the same for effective teaching-learning to be achieved. Loewen, (2018) observes that some teachers have been found to be better in matters of instruction and curriculum delivery than others. These are teachers who have known reflective practise that change education leading to improved outcome (Horton-Deutsch, & Sherwood, 2017). Reflective practice in the context of this study implies situations whereby teachers can evaluate themselves to ascertain the extent of lesson delivery after conducting the teaching. Learners should as well assess themselves whether they have gained some knowledge after the end of the lesson.

The way Early Childhood Care and Education is administered differs in countries. The more industrialized nations consider early childhood to be a period from birth through age eight while developing countries focus from birth through age six, (Ashraf, Weil & Wilde, 2013). Regardless of the different stand points, the increased need in early childhood education around the world is a reflection of the effort to be put on children.

Development of ECDE schools in Europe and America was greatly affected by the need to provide health, welfare and care of vulnerable children affected by war and poverty (Brown, McMullen & File, 2018). In United States of America (USA) ECDE covers from 6 years but changed later because of various reasons: According to research findings, significant developmental changes in children's holistic development occur when they are 5 years old. This brought about increased number of children who were enrolled in Early Childhood Education (ECDE) after finding out that ECDE had long term benefits especially children from vulnerable environment that's why in USA, they started a programmer known as Head Start which sought to ensure that children were familiar with

concepts they were supposed to have when they began schooling. For example, children from good environment knew something about computers than those from poor environment. to helped discover these fundamental actions and computers. They found that the children from poor environment did the same as children from good environment (Ferguson, Cassells, MacAllister & Evans, 2013).

In the US, the government has put in place measures to provide basic institutions with instructional facilities to provide effective teaching-learning process, Nilson (2016). Torrente et al (2016) established a contrary finding that poor learning conditions drastically affects learning in the developing countries leading to poor performance.

In Africa, provision of quality of ECDE remains elusive especially in low income countries. According to UNESCO (2012) and Gordon (2016) the quality of ECDE in Sub-Saharan African countries was characterized by inadequate trained teachers, poor physical infrastructure, disjointed coordination of services and low participation rates. The challenges that affect the developing countries and particularly in terms of teaching-learning were not common in the developed countries. A number of African nations are faced with a considerable degree of illiteracy of parents. This makes them become reluctant on the issues pertaining to education of their children due to ignorance whereas the developed nations actively concentrated in the funding of education of their children without fear (Andresen, Fegter, Hurrelmann & Schneekloth, 2017). This could be attributed to high enrolment lowering the learning process.

Similarly, the East African region has not fared any better in the provision of quality ECDE. A study by UNESCO (2006) in Burundi, Ethiopia, Eritrea, Uganda, Rwanda and

Tanzania showed that most ECDE children in these countries learn in deplorable conditions characterized by low teacher motivation, trained teacher shortages, inadequate teaching and learning materials and poor physical facilities.

In Uganda, classrooms have a marked deficiency of teacher to pupil ratio. The process of instruction is also poor this includes; poor lighting, low ventilated classrooms which in turn leads to poor health of the learners (Marylin (2017). Zimbabwe as well experiences scarcity of teaching/learning materials in the schools which has affected the teaching-learning process, (Read, 2015).

In Kenya, the introduction of Free Primary Education (FPE) in 2003 was a move to increase access to education and reduce the high level of illiteracy. However, the government did not consider much to expand the available facilities and increase the number of teachers. This has led to abnormal overcrowding in classrooms, hence makes the work of the teacher difficult (Wabuoba, 2011) quoted in Chuma (2012). The high ratio of teacher to pupil in Kenya is discouraging because many schools are understaffed. School board of management are unable to recruit extra teachers through BOM due to financial constraints. Such deplorable conditions frustrates the learners and occasion school dropout (Samanta, 2017). William and Thompson (2017) suggests that for teaching and learning to actively take place, there should be enough resources, enough teachers and materials to facilitate the process learning in the school . This has been an important value of contention between unions and Govt. Unions like Kenya National Union of Teachers (KNUT), who have constantly raised alarm and pushed for recruitment of more teachers to curb the shortage in the country (Mulima, 2017).

According to Toroitich (2015), schools within Keiyo North Sub County in Elgeyo Marakwet County have classroom facilities, outdoor play fields and materials but they are not adequate at all. This inadequacy is partly contributed by low support from parents and other stakeholders, inadequate finance, low motivated ECDE teachers and incompetent primary school head teachers. Kiptum (2018) as well observes that schools in Keiyo North Sub-County are experiencing poor environmental factors such as poor conditions of classrooms, inadequate number of teachers, and inadequate teaching materials. These are some observable factors that provoked the researcher to investigate the influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North Sub-County

1.3 Statement of the Problem

Kenya is among many developing countries in Africa with majority of young children going through education systems that sometimes fail to provide teaching and learning instructions well (Nyakeoga, 2018). Kiptum (2018) noted that lack of adequate space in a classroom hindered effective learning. This was intensified by overcrowded classes, inadequate staff and pupil-teacher ratio. Other factors related to; poor classroom environments in schools, inadequate in-servicing of teachers, inadequate resources, poor health and sanitation, gender insensitive environment, poor methods used in teaching and inadequacies in quality assurance also contribute to low teachers satisfaction, GOK (2005).

In Keiyo North Sub County some classes were conducted under very difficult circumstances for both the children and the teachers (Kiptum, 2018). Whereas this was a temporary situation, it is a reality that there were many other schools carrying out learning

under such difficult situations which affect negatively the performance of their pupils. The lack of conducive classroom learning environment in the majority of preschool institutions continued to hinder proper achievement of quality education for all children. Sang (2013) notes that in parts of Keiyo North Sub County a lot of children that are learning basically in tents and in the open fields with a teacher teaching with a child strapped on her back. Instructions for young children laid a foundation of the concepts and skills on which future learning and operations are built. Instructions helped children to make sense of their world outside school as well as helping them construct a solid foundation for later success. Therefore, the need to research deeper into influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North Sub-County.

1.4 Purpose of the Study

The purpose of the study was to investigate the influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North Sub-County.

1.5 Objectives of the Study

This study therefore sought to achieve the following objectives:

- i. To establish the influence of teacher-learner activities on children's academic performance in public ECDE schools in Keiyo North sub-county.
- ii. To examine the influence of teaching methods on children's academic performance in public ECDE schools in Keiyo North sub-county.

- iii. To determine the influence of adequacy of teaching/learning resources on children's academic performance in public ECDE schools in Keiyo North sub-county.
- iv. To assess the influence of class size on children's academic performance in public ECDE schools in Keiyo North sub-county.

1.6 Study Hypotheses

H₀₁: There is no statistically significant influence of teacher-learner activities on children academic performance in public ECDE schools in Keiyo North sub-county.

H₀₂: There is no statistically significant influence of teaching methods on children academic performance in public ECDE schools in Keiyo North sub-county.

H₀₃: There is no statistically significant influence of adequacy of teaching/learning resources on children academic performance in public ECDE schools in Keiyo North sub-county.

H₀₄: There is no statistically significant influence of class size on children academic performance in public ECDE schools in Keiyo North sub-county.

1.7 Significance of the Study

Significance of the study was a description of the contribution of the study to the broad literature or set of broad educational challenges upon completion (Best & Kahn, 2016). The findings of this study may be helpful to the government in the formulation of

policies that will help in implementing solutions to the challenges pertaining to classroom environment. It would also contribute to the body of knowledge which will help other researchers studying on related areas to find helpful information. Donors will also find information that helps them know establish areas of need and funding. Further, the findings would assist school managers to understand challenges affecting teaching-learning in ECDE schools.

The County government through the Ministry of Education will also find information that will help in planning for enough funds for ECDE to cater for instructional materials, repair and maintenance of the available physical facilities, thus improving the teaching-learning process in schools. The study would positively influence parents to participate in improving the school facilities by organizing for fundraisers to construct classrooms, laboratories, library among other facilities. Other policy makers will also use the findings to develop strategies to improve academic standards in ECDE schools. Finally, the findings of the study will help preschool teachers to understand the importance of organizing the classrooms for conducive learning. For effective process of instruction, it is important for teachers to understand the ways of improving the school environment since it is such an important place in the growth and development of a child.

1.8 Scope of Study

Marylin and Goes, (2013) described scope as specification of the geographical location and methodologies within which a study operated. This study was carried out in sampled public ECDE schools in Keiyo NorthSub-county. The study was confined to Keiyo NorthSub-county just which was influenced by accessibility to the locality.

1.9 Delimitation of the Study

Sharp, Green and Lweis (2017) describes delimitations as the parameters of an examination, portrays what a specific report does not cover or the qualities that farther point the degree or characterize the limits of the investigation. Though there were several factors that influenced learning in ECDE schools in Keiyo North, the study was delimited to geographical weather conditions, government policies, accessibility and general school status.

1.10 Limitations of the Study

According to Simon and Goes (2013), the end result of a research are occasionally affected by factors beyond the researcher. In this particular research, the first limitation was data from respondents who were not prepared and willing to share data with respect to their direct influence and much of exploitation by their seniors. The researcher guaranteed respondents of confidentiality and secrecy by keeping their identities. Some other respondents were not eager to provide data because of personal reasons. The researcher explained to them the significance of the examination and the need for their support

1.11 Assumptions of the Study

Ozga and Lawn (2017) considers assumptions as real affairs that remained realistic and within the knowledge of researcher before commencement of study. Such facts do not in any way affect the results of study because they are factored beforehand. This study factored in the inaccessibility of satisfactory physical facilities and teaching materials influenced teaching and learning process. It was likewise expected that in the educators' participation and amicability was key principles in the instructional procedure and learning.

The last assumption was that students who experienced poor learning school condition didn't accomplish the ideal innovativeness in the teaching-learning and improved academic performance.

1.12 Theoretical Framework

The relevant theory to this study was Constructivism Theory of learning by Illeris (2018). A major theme in the theoretical framework of Illeris is that learning is an active process in which learners develop new ideas based on their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so (i.e., schema, mental models) provides meaning and organization to experiences and that allows the individual to "go beyond the knowledge gained". As far as the process is concerned, the teacher should try and motivate learners to develop skills by themselves. The teacher and learners engaged in an active process (i.e., Socratic learning). The task of the teacher is to translate information to be acquired into a format appropriate to the learner's initial state of understanding. Curriculum should be arranged in an all-round manner so that the learner continually grow upon what they have already learned.

Hanson (1996) explain the composition of environment that the internal environment of a classroom comprises of activities and methods of teaching which influence positively or negatively on school academic performance. Also as observed by, (Mao, 2014) social interaction in school is important and promotes group work, values acquired by children within the school influence their' behaviour and attitude. Therefore,

each learner should as well be motivated to work on the individual task assigned by the teacher.

However, there are few criticisms levelled against Open System Theory. Chick (2014) argues that a number of researchers studying organizations find the OST not very much applicable. Despite the limitations, the researcher still finds the theory relevant for use in the study due to its advantages. For instance, the OST has enabled an understanding of the fact that schools are organizations whose study deserved a theory relevant to its nature and as such, the OST is considered fit for the research. The other reason for the importance of this theory in the research is the one fact that public ECDE schools in which the study undertakes are schools which are categorized as open systems of organizations. The ECDE schools are also established in community.

The theory was relevant to the study because teacher learner activities can influence the academic performance of the children. This is because the teachers are having an assumption that learners are empty vessel to be filled with knowledge. The theory indicates that learners construct meaning through active involvement within the classroom and teaching methods used. Teacher-learner activities, adequacy of teaching/learning resources and class number of children may result in different learning by each pupil, as their interpretations may differ. Knowledge acquired by learners is actively developed by children based on their existing cognitive structures. Therefore, learning is relative to their stage of holistic development. Cognitivist teaching methods aim to assist learners in developing new information to existing knowledge, and enabling them to make the appropriate changes to their existing intellectual growth to allow that information.

1.13 Conceptual Framework

This is a representation of the relationship that exists between varied public Ecde classroom environmental factors which influence the process of learning. The framework displays a summary of the variables of the study. In this study the dependent variable is performance in various activities. The independent variables are classroom environmental factors within the school which act as inputs in academic performance, as illustrated by the diagram on figure 2.1.

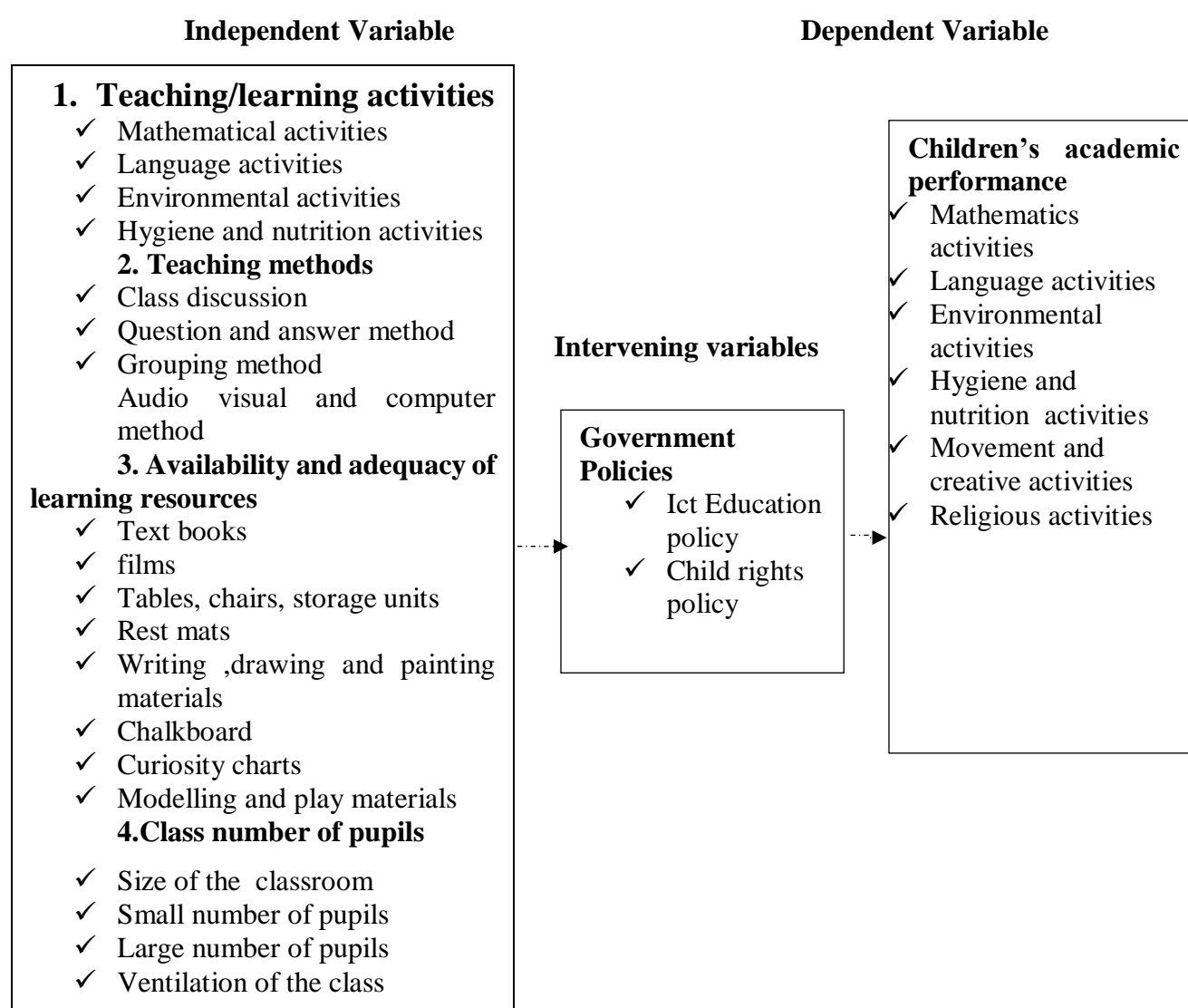


Figure 2.1 Conceptual Framework

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical review, literature, summary of literature relevant to the study and research gaps was covered.

2.2 Empirical Review of Literature

This section reviewed related studies to the study variables. It specifically reviewed literature related to teacher-learner interactions, teaching methods adopted, availability and adequacy of the teaching and learning resources and the number of children in the class..

2.2.1 Influence of Teacher-Learner Activities on Children's academic Performance in all Public ECDE schools .

According to Kenya Institute of Curriculum Development (2017), learning activities comprised all the engagements that the learner goes through during the lesson, which may be carried out by an individual learner or by group work. They were activities that were tailored towards achieving the intended learning outcomes of the lesson. Mathis (2017) notes that for the best children performance to take place, the teacher should have been be familiar with the substance to be conveyed and select the best meaningful and useful activities to communicate the content to the pupils effectively. The selection of the best activities is important because different pupils came with different socio-economic needs which are exhibited in their behaviour. It's the duty of the teacher selected activities that met at least the demands of almost each student. Mathis (2017) noted that understudies apparent viable educators as the individuals who connected various ways to deal with

instructing and made learning a reality and agreeable and what the pupils did were more important than what the teacher did.

The pre- school curriculum in Kenya was designed to embrace competence based curriculum on the learner (Murphy & Wolfenden, 2013). This was shown in the Basic Education Curriculum Framework (BECF). This curriculum emphasised language, mathematical, environment, psychomotor, creative and religious activities. Each of these learning areas had its specific and general expected outcomes. In order to achieve these outcomes, learners should have been engaged in different activity areas that included: collaboration, communication, critical thinking and problem solving, creativity, imagination, digital literacy, citizenship and learning to be self-efficient (Ohler, 2013).

According to Campbell, Mitchell, Kleinig, Dewey, Churilov, Yassi and Wu, (2015) learning was through discovery by the learner. This worked when the teacher exploit the individual child's interests and gifts in order to attain the most for the child. Consequently it is not possible to rely on one activity since different children had different needs. The need to vary the activities is therefore mandatory.

2.2.2 Influence of Teaching Methods on Children's academic Performance in Public ECDE schools.

The application of teacher's methods of teaching needed special classroom environment and atmosphere which is conducive for learning and getting helping the learner to achieve the best. Uda, (2013) observed that a good learning atmosphere was one that far largely reduces the stresses of learning and specifically creates joy.

The relationships of teacher and the pupils, the teaching method or model and the classroom atmosphere greatly affect student's achievement. The appropriate model of teaching and the learning environment will determine the fun and enjoyment of lesson and will indirectly improve or dampen student's achievement. Made Wena (2011), states that we must first understand methods adopted for teaching and the environment in which learners find themselves as the prime variables of learning. Hanratty, Miltenberger, & Florentino, (2016) also concurs that are important and can be classified into three: learning condition, strategies (methods), and the results (outcomes) of learning.

Novak et al (2016) state that training techniques give a structure to precise association and introduction of instructional exercises. A legitimate comprehension of these techniques and a portion of the variables identified with their choice is a pre-essential for good instructing learning. Instructors' approach is fundamental in guaranteeing that learning targets and objectives are accomplished. Learning strategies anyway speak to two primary methodologies in instructing: Learner-focused and educator focused methodologies. Student focused methodology claims most since, aside from propelling the students and showing them how to learn, it likewise has the additional preferred position of helping them to recollect effectively what they have realized. This strategy additionally catered for individualized learning. Student focused technique for instructing subsequently encourages instructors to recognize singular capacities and shortcomings and manages each properly. The student focused methodology in guidance has a bit of leeway in favor of the educator just as in favor of the student. To the educator, it spared him the vitality of seeming like a parroting instructor to the student which may every one of the a merelullaby

be sending him to rest as opposed to instructing. To the student, it excites his interest to find learning without anyone else. The Ministry of Education in Kenya (2011) additionally advocates that the tyke ought to be put at the focal point of learning.

Poulou (2017) observes that teachers lean towards the utilization of educator focused technique to the student focused strategy in guidance, the instructor focused strategy as a rule is grievous to the student if different methodologies are left unexplored. Berry further states that the Blooms Taxonomy three primary classes of realizing, that is; psychological, full of feeling and psychomotor be utilized as a reason for choosing the method of guidance an instructor can utilize. In psychological area learning may happen utilizing every one of the strategies for educating, full of feeling space might be accomplished utilizing talk, contextual investigation, pretend technique while psychomotor learning might be best obtained by dynamic physical interest, for example, showing, experimentation or venture work.

Poulou (2017) is concerned about the preparation of pre-teachers and contrast in period of children in school individually. Present a worry of preparing of pre-teachers in Italy in accordance with Maria Montessori method of Reggio Emilia Approach. The educators that were prepared in accordance with this methodology permitted the children autonomy and opportunity and again in this methodology, the kid is constantly connected via cautious perceptions concurred to them by the instructor. The methodology additionally thought about the mental advancement of the learner. Since a home room may contain offspring of various ages, that is multi-grade, course of action of learning materials ought to be done so that the student can accurately pick any learning movement he liked.

According to Musset and Topping (2017), the pupil's confidence drives the learner to carry out learning activities on their own. This suggests the students must be helped first to accept that they are well fit for getting the spread information before they can pick up the guidance. This, they can do by attempting to find information through accessible writing or learning materials. Regardless of whether this probably won't be effective at first endeavor, gaining from disappointment spurs the students and what is found out over the long haul in the end adheres to memory. It is essential to take note of that, allowing students to control learning materials will empower them to create fearlessness. It likewise empowers the student to have certain level of freedom in adapting consequently expanding the student's dimension of ability.

As seen by McAllister and Sloan(2016), the more instructors are seen by the students as agreeable and touchy to the requirements of the students the more the students will concede to the work doled out to them by their educators. This implies it is the obligation of the educators set a situation of being a good example to the students, and hence the instructors ought to guarantee discovering that is dynamic and drawing in is directed. Students become effectively enabled as they take part in participatory discovering that hones their exchange aptitudes which leads them to getting to be fruitful and dynamic natives (Niemi, Kumpulainen, & Lipponen, 2015).

As a way of addressing the above, David (2015) focuses on the need to outfit educators with pertinent information and abilities. This should be possible by setting up the preparation instructors with the goal that they procure important arrangement before they can be able to show the students. David (2015) is concerned about the significance of

correcting conditions that can affect children ability to get associated with the designs that enhance discovery

2.2.3 Influence of Adequacy of Teaching/Learning Resources on Children's academic Performance in Public ECDE Schools

Accessibility of instructional materials impacts the way toward educating learning in schools. As observed by Mathew and Alidmat (2013) in their investigation, assets, for example, educating learning helps, broad media helps are utilized, the learning procedure is improved. The previous sources additionally settled that there was checked distinction between youngsters who are instructed by utilization of such educating learning helps and the ones instructed generally. They completely called attention to that learning turns out to be additionally fascinating when students play with articles just as watching others play with the equivalent.

Regarding the execution of the educational plan, accessibility of instructional materials is of focal significance. Odhiambo (2015) roots for offering learning conditions that stimulate variation to the student and this empowers him to think all through the entire procedure in learning. Educational program execution can't be isolated from understudy's scholastic accomplishment in school. Olayinka (2016) and Republic of Kenya (2013) contend that instructional materials being in presence in schools directly affects the nature of training gained by the student. Further, Onyinka observes that accessibility of value instructional materials energizes youngster focused learning and this empowers the student to grasp the disclosure strategy for obtaining information and abilities independent from anyone else.

It is too important that the instructional materials which are necessary for use are solid and steady for early utilization. In concurrence with above, Perrott (2014) calls for attention to that the instructional materials that are arranged well decide the quality and the result of discovering that happens and that, the schools with enough instructional materials will in general perform well. Metto and Makewa (2014) demonstrate that at whatever point quality learning assets are utilized during the time spent transmission of information, more than one workforce of human sense is locked in all the while. This concurs with the discoveries of the Psychologists that distinctive human detects represent shifting degrees of learning. Evaluations has it that the taste sense represents 1%, the feeling of touch represents 1.5%, that of smell represents 3.5 though the feeling of sight represents 83%. It is additionally accepted that 20% of what is heard is held while half of what is seen is held. This convincingly legitimizes the need to utilize visual showing helps in instructing and learning. A synopsis of the significance of educating and learning assets in guidance is viewed as an enhancement for the capacity of the student to reason, think, hold and recollect what has been realized (Metto&Makewa, 2014). In view of this, the study assessed how the sufficiency of instructional materials influences children performance in public ECDE centres in Keiyo North sub-county.

2.2.4 Influence of Class Size on Children's academic Performance in Public ECDE Schools

Earlier studies by Harfitt & Tsui, (2015) have shown relationships between class size and teaching. Results from deliberate perception and preparation of teaching and reduced class size appeared to be better and clear. There was predictable proof that in little classes youngsters were bound to interface with their instructors, increasingly

coordinated educating occurred, kids were all the more frequently the focal point of an educator's consideration, all the more instructing occurred in general, and kids all the more regularly took care of their educators.

The pattern toward individualization in little classes did not appear to be characteristic of a latent job for kids; the inverse appeared to be almost certain, that is, youngsters in enormous classes invest less energy effectively cooperating with the instructor as far as reacting or starting. Results from finished end-of-year educator polls and contextual analyses gave an increasingly subjective adaptation of associations between class size and instructing, more grounded in encounters in individual classrooms (Sharplin, 2014).

These segments recommended that class size influenced the measure of individual consideration, the promptness and responsiveness of instructors to youngsters, the continued and intentional nature of association among educators and kids, the profundity of an educators' learning of kids in their classes, and affectability to singular kids' specific needs (Hollie, 2017). Generally speaking, we suggested that in littler classes there was greater probability of what is called educator support for learning. It may be contended that one answer for the instructor's challenges in reaching youngsters in huge classes limits the use of perfect methodology, so that there is effective learning in smaller no. of children than teaching a bigger populated class . In any case, there was no proof that educating to the entire class expanded in bigger classes, and this negated desire. Be that as it may, this outcome may have owed a lot

to educators of such youthful kids feeling awkward about expanding the measure of entire class instructing (Danielewicz, 2014).

It is conceivable that such an adjustment to enormous classes is more probable with more seasoned youngsters and changing educational plan requests throughout the following phase of essential training (Dewey, 2013). In England, there is currently clear educational program direction on arithmetic, proficiency, and science and a solid weight on schools, particularly in Years 5 and 6 (9 – 11 yearsold), to prepare the learners for Government set end of KS tests (SATs). There are additionally major formative changes in youngsters throughout the years from 7 to 11, which are probably going to have significant ramifications for learning and educating, and perhaps the impact of class estimate on instructing (Duchesne &McMaugh, 2018).

In their study, Suleman and Hussain (2014) found that classrooms that are well staffed presents a high level of achievement during the time spent educating learners in schools and this obstructs free development of both the instructor and the learners. By looking at two parts of learning conditions in USA, Maxwell, (2016) discovered that learners attending schools that have great framework register better execution of skills with the individuals who go to schools that are inadequately kept up as far as foundation is concerned. Hong, & Zimmer, (2016) are in support of Maxwell's assertions.

A study by Mathis (2017) shows that students do well in the classrooms that are appropriately sorted out. The size of the class likewise affects educating learning process. When the class is small and conforms to a prescribed limit, it makes the instructor and the student to associate intently consequently advancing the dimension of guidance. On the

other hand, when the classes are too big for pupils capacity, there is inclination of negative effect on the instructional procedure since the educator does not satisfactorily interface with the student (Gibbs & Jenkins, 2014).

Accordingly, the educator might not have singular consideration regarding each student in a huge class. This presents significant obstacle to the accomplishment in the guidance to the students (Bahanshal, 2013). Given that there is high populace of ECDE kids in the examination territory, there must be the truth of huge classes. With regards to this investigation, 'huge classes' infers classrooms with high populace of students. Thusly, this examination expects to see if huge classes influence the procedure of guidance to the students in the investigation zone.

The size of furniture and hardware used by pre-school children is significant in the facilitating the learning process. Ismaila et al (2015) and NACECE (1995, 2000) recommended that tables and work areas ought to be intended to fit the improvement modifications of the developing kids to permit simple development, bunch work and play, and that the furniture ought to essentially be suitable for the age of the student. Also, the discoveries of the Ministry of Education (1993) nearly demonstrated that schools with lasting structures and enough sizeable work areas and tables for the pre-school children showed improvement over those that have deficient or none. This study sought to find out how classroom environment influence children's performance in public ECDE schools in Keiyo North Sub-county.

Mbiti (2013) affirms that homeroom condition ought to be clean by keeping up school assets which for the most part experiences colossal tear and wear, great and well-

kept up playing ground. This make the study hall condition look lovely, sheltered and livable for instructing learning procedure and inability to make the study hall condition clean is in itself denying the student a huge piece of their training. Additionally, the previous source holds that since numerous country schools in Africa have semi- permanent structures,also majority of the classrooms are left in a pathetic state.

To add this threat to the ill-advised cleanliness of toilet's that plague both county and urban schools, at that point accomplishing great instructing learning condition in schools remain a test of extraordinary a concern. Most classroom environment were not conducive because of absence of customary review by the school organization (O'Reilly, 2016). This condition represents an incredible well-being peril that make teaching and learning undesirable for the pupils. Following this, the study determined the influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North sub-county.

2.3 Summary of Literature Reviewed and Research Gaps

The reviewed literature displays various studies on issues that influence learning in schools in general. These include: classrooms, teacher's preparation, staff collaboration, and availability of teaching-learning materials, internal classroom environment, among others. The surveyed investigations do not address how these components influence the classroom procedure of instruction and guidance in public ECDE schools that are situated inside Keiyo North Sub-county. Moreso, the scanty data accessible for Keiyo North sub-district had not considered how classrooms conditions affect the teaching and guidance on the pupils in ECDE. Instead, they focus on the government to fund schools, especially in the arid and

semi arid zones. Because of such gaps, the researcher instead focused on the connection between classroom environmental factors, like Instructional materials used, teaching methods and activities and how these impact on the procedure of teaching.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The purpose of the study was to establish the influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North Sub-County. This chapter deals with description of the methodology that. The section is divided into the following parts: research design and methodology to be used by the study. The subdivisions in this chapter include; research site, research design, target population, sampling techniques, the sample size, validity, data collection instruments, reliability, data analysis and ethical considerations of the study.

3.2 Research Design

This study employed descriptive survey research designs. Schmelkin (2013) notes that descriptive survey research is intended to produce statistical information about aspects of education that interest policy makers and educators. This design is deemed appropriate as it gives an elaborate description on the influence of classroom environment on children's academic performance in public ECDE schools in Keiyo North sub-county. The research was generalized to other parts of Kenya with similar characteristics. This was a method of data collection which involved identifying the achievements of an observed phenomenon (Zohrabi, 2013).

On the other hand, quantitative aspects were used since this exploration was a self-report examination that depended on the gathering of quantifiable data from an example by meeting or directing poll to a gathering of tested people (Pedhazur, &Schmelkin, 2013). It included gathering data concerning the present wonder and where conceivable reach

inferences from the found realities. Clear techniques was generally used to acquire information for assessing present practices and accommodating future choices.

This technique was deemed suitable as it allows for detailed depiction of data on homeroom condition on young children in public ECDE schools in Keiyo North sub-county. The approach was used form generalisation on different parts of Kenya with comparative qualities. This was a technique for information accumulation which includes distinguishing the attributes of a watched wonder or investigating potential relationships among at least two marvels (Zohrabi, 2013).

The study also made use of Illustrative overview research in which planned data are utilized in primer and exploratory examinations to enable researcher assemble data, condense, present and decipher with the end goal of explanation. Pedhazur and Schmelkin (2013) describe spell binding exploration which is deciding and detailing the manner in which things were. Pedhazur and Schmelkin, (2013) note that expressive overview research is that which is planned to deliver measurable data about parts of instruction that intrigue arrangement producers and teachers. Exploratory strategies were broadly used to get information for assessing presents practices and accommodating future choices.

Finally, the study identified structures which were utilized in the collection and analysis of data. Such structures enabled the researcher to assemble data, outline, present and translate with the end goal of interpretation and analysis.

3.3 Research Site

This study was done in Keiyo North sub-county, Keiyo North is an electoral constituency in Kenya. It is one of four constituencies of Elgeyo-Marakwet County. There are a number of public primary schools within which many public ECDE schools that were developed, and are referred to as public ECDE schools. Given the high demand of basic education, many parents take their children to the pre-schools. Comparing the population in the Sub- County and the rate starting new public ECDE schools or expanding the already developed ones, it was apparent that the available ECDE schools were not enough. This might have currently presented a learning environment which was not conducive, posing a threat to teaching-learning in these centres.

This was the situation that occasioned the researcher to do a study to ascertain how this classroom environment influenced teaching-learning in the study area. The researcher chose Keiyo North sub-county as a representative of other sub-counties because it was near, accessible and has adequate sample required for the study. In view of the above, this study therefore investigated whether problems of the classroom environment on academic performance could as well be a concern in public ECDE schools in Keiyo North sub-county, Kenya since it is an arid area and because ECDE schools depend on parents to support them hence improve the quality education.

3.4 Target Population

Zohrabi (2013), defines target population as the whole set of available objects or individuals which the data obtained was used to make conclusions and relevant information that was used in the research. In this study, the target population was the entire group of

ECDE teachers in Keito North that a researcher had identified for research and analysis. A sampling frame was however drawn from this target population. In Keiyo North Sub County, there are four educational zones with 67 ECDE centres. Bugar had 20 ECDE centres, Kessup had 15 ECDE centres, Kaptum had 15 ECDE centres and Kamariny had 17 ECDE centres. Therefore the study focused on 105 ECDE teachers drawn from 67 public ECDE schools and all the learners in the 67 schools in Keiyo North sub-county.

Table 3.1 Target Population

S. NO	ZONE	NO. ECDE centres	ECDE teachers
1	Bugar	20	34
2	Kessup	15	23
3	Kaptum	15	21
4	Kamariny	17	27
	Total	67	105

3.5 Study Sample

This sub section describes the sample size and the sampling procedures of the study.

3.5.1 Sample Size

A sample size is a representation of population which is derived from the target population. It is a sample drawn from a larger population and used to estimate the characteristics of the whole population, (Zohrabi, 2013). According to Mugenda and Mugenda, (2012) a sample size ranging from 10 to 50% is deemed acceptable. For the purpose of this research, 30% of the ECDE centres in each zone was sampled for the study. Thus, a total of 21 ECDE centres was used in the study. The study used Fishers formulae to calculate sample size of teachers.

$$n = \frac{N}{1 + N(e^2)}$$

where

n represents desired sample size

N represents population size

e represent precision error (0.05)

therefore,

$$n = \frac{105}{1 + 105(0.05^2)}$$

$$n = 83$$

Therefore the desired sample size for this study was 83 ECDE teachers in Keiyo North Sub County . This distribution was captured in table 3.2.

Table 3.2 Sample Size

S. NO	ZONE	NO. ECDE centres	ECDE teachers Samples
1	Bugar	6	27
2	Kessup	5	18
3	Kaptum	5	17
4	Kamariny	5	21
	Total	21	83

3.5.2 Sampling Procedures

Chen (2016), states that a sampling procedure is a method of selecting a sub- group to be involved in the study; it is the method of selecting a number of objects or individuals for a study to represent the larger group of objects or individuals. The study used simple and stratified random sampling technique. Zohrabi (2013) notes that stratified sampling technique is where the target population was divided into strata and sample items or individuals are then selected from each group using simple random sampling. The study

stratified schools per the four Zones. As for the ECDE teachers, simple random sampling was used. The researcher used these techniques to avoid biasness and making the results reliable, detailed and effective (Pedhazur & Schmelkin, 2013). In order to get the pupils performance the researcher administered activity to all pupils in the 21 sampled schools, then rated their results.

3.6 Data Collection

The study used questionnaires, Lesson Observation and Observation Check list as the main research instruments.

3.6.1 Data Collection Instruments

A questionnaire consists of a number of questions printed or typed in definite order on a form. According to Heale and Twycross (2015) a questionnaire is a means by which a researcher gathers data for a large sample. The questionnaire was given to respondents who are expected to read and answer the questions in the spaces provided (Zohrabi, 2013). According to Brace (2018), questionnaire was the best tool because it enabled the researcher to collect a lot of information within a short period time at a low cost in terms money and input.

Of within limited time. It is also true that questionnaires created uniformity in the way in which questions are asked and this made it possible for comparative analysis across different responses. Questionnaires are also best in this study since the target population is literate and thus limits chances of difficulties in responding to questionnaire items. The advantage of this tool (in this study) was that the respondent (teachers for this case) could set aside their convenient time, is in full control of the questionnaire and thus completed

and returned it at agreed convenient time (Zohrabi, 2013). The study administered both closed- ended and open- ended questions to all the public ECDE teachers in public schools in keiyo North Sub County.

Questionnaire helped the researcher to address the concerns of objective 1 and 2. The researcher believes that ECDE teachers provided honest responses in terms of the teaching and learning activities they use in their lessons and the methods they use in teaching. The questionnaire has five sections A, B, C, D and E (see Appendix II). Section A sought to capture general information of the person filling, section B dwells on aspects of influence of teaching/learning activities while section C collects data on the use of teaching/learning methods. Section D sought to collect data on the availability and adequacy of teaching/learning resources and the last section E gathered information on the influence of class number of children on teaching and learning.

3.6.2 Lesson Observation

Besides questionnaires, the study made use of lesson observation as a way of collecting data. Spradly (2016) describes observation as a systematic way of describing events, behaviors and artifacts of a social setting. This involved the researcher taking time to sit in a classroom as a lesson was in progress and also administered a test which was rated to the learners. The purpose of this method was to collect information that questionnaires did not capture. These include mainly the social aspects like activities of the teacher and those of the learners within the lesson. For example, how learners responded to questions, how they did tasks in class individually and in groups. On the part of the teacher, observation helped in establishing how questions were asked, how many learners

were used and kind of resources used in class. This tool therefore helped in gathering data that helped in addressing the concerns of objectives 1 (learning activities), 2 (methods used to teach) and 4(size of class). Indeed, observation provided first hand information to the researcher. This lesson observation tool was provided in appendix iii.

The last tool used was an observation checklist which is defined by British Council as a list of things that an observer is going to look at when observing a class session. This list captured important aspects that was not forgotten by the researcher. The list was demarcated into sub areas like, activities by learners, activities by teachers, resources used, time etc. Thus apart from partly complementing questionnaire, this tool was effective in achieving demands of objective number 3 (availability and adequacy of resources). Examples of items in the tool included: whether specific resources were found and in what quantity, whether the teacher made use of the resources or not, whether the teacher followed the timings on the lesson plan, or whether the teacher distributed tasks to learners evenly. The advantage of a checklist was that the researcher not overlooked or over dwelled on certain activities. Thus it gave a balanced and organized way to observe activities. This tool was provided as appendix iv.

3.6.3 Preschool Learners Assessment Test (PLAT)

This was a comprehensive teacher constructed assessment test (Appendix V) that was adopted from Karanja (2017) study. The test aimed at assessing the extent to which learners had acquired the skills and knowledge in various subjects offered in the preschool curriculum. The test assessed knowledge in science, creativity, number work, language and

social environment. According to Karanja (2017), PLAT had a high reliability coefficient ($r = 0.83$) and thus suitable for the current study.

3.6.4 Pilot Testing of Research Instruments

Pilot testing was carried out in 21 schools in Keiyo North Sub-County had same characteristics and similarities schools in study area. The main purpose of the pilot testing was to enable the researcher to ascertain the reliability of the reliability of instruments used in the main study and to familiarize with the administration of the schools questionnaires in order to make gradual improvements on them.

3.6.5 Instrument Reliability

Heale and Twycross (2015) observe that reliability of a research instrument is the degree to which a research Instrument measures and gives consistent results or data after repeated trials. This is also supported by Gibbs and Jenkins (2014) who holds that reliability is the extent to which a research Instrument measures what it is supposed to measure by using test-retest technique. It was important to determine factors like speed of returning the filled documents, accuracy and honesty of information provided and how specific information by researcher was. Data from pilot testing was used to test reliability. To determine reliability of research instrument, Cronbach's Coefficient Alpha was computed for each item. Bengtsson, (2016) notes that a reliability coefficient of 0.7 or over was assumed to reflect internal reliability of the instruments. The questionnaires deemed reliable after detected errors and omissions had been corrected.

3.6.6 Instrument Validity

Zohrabi (2013) says validity is the extent to which a test measures what the research actually wishes to measure. Validity was confirmed by expert judgment. In this case, initial expert advice actually came from my able supervisors. Apart from supervisors, the content validity of the instrument was determined by doing a pilot testing in Keiyo south Sub-County. Areas in the questionnaire that presented elements of ambiguity and overlaps was corrected in order to finally fashioned the instrument for use in this study.

3.6.7 Data Collection Procedures

An introductory letter from the University was sought by the researcher before seeking permission from the National Commission for Science Technology and Innovation (NACOSTI). The permit was then presented to the County Director of Education, who gave the researcher permission to conduct the study in the study area. The researcher then visited the public ECDE centers in Keiyo North Sub County to collect information. The researcher left the questionnaires with the respondents for two weeks before going back to collect them.

3.7 Data Analysis

Data analysis is the method used in bringing order, structure and meaning to the mass of collected data. It was important to analyse data so that the researcher obtained usable and useful information in the study. According to Bengtsson, (2016), data is set out in such way that it describes, discusses, evaluates and explains the features and characteristics of collected information in order to be able to answer the research questions. After collecting, the researcher went through the questionnaire to identify incomplete or inaccurate responses

in the tools to obtain clean data. Editing was done to be sure that the data were accurate and consistent with other facts gathered and arranged to facilitate coding. The clean data was coded and fit into the computer database for analysis using Statistical Package for Social Sciences (SPSS V22). Since the study adopted mixed methods approach, the research results gave outcome both in qualitative and quantitative data. Content was used to analyse qualitative data based on collected from respondents. Quantitative data was analysed using responses from identified scale (questionnaire) finally the influence of the dependent variables on the independent were analysed using Pearsons moment correlation. The researcher choosed to use Pearson product moment correlation because the instrument was of interval and ratio-scale variables. Data presentation was done in tabular method using frequencies and percentages, pie charts and bar graphs.

3.8 Legal and Ethical Considerations

The researcher explained to the respondents the purpose of the study, and all the respondents were assured of the confidentiality of the information they gave. The researcher assured them that their names and schools would not be revealed and assure them of the feedback of the study if they needed it after. Their informed consent was also obtained before the commencement of the study. The participation of respondents was on a voluntary basis and no benefits was attached. This aimed at securing cooperation from them. The researcher established a rapport with the respondents and facilitate the collection of data. The researcher ensured that an approval to do the research had been obtained from the Ministry of education(MOE). Questionnaires, observation checklists and lesson observation were

carried out in a classroom environment that allowed the privacy of the information and the respondent's confidentiality in the research study.

CHAPTER FOUR

RESULTS AND ANALYSIS

4.1 Introduction

This chapter presents the results and discussions of quantitative data analysis of the study. The main aim of the study was to investigate the influence of classroom environment on children's performance in public ECDE schools in Keiyo North Sub-County.

4.2 Response Return Rate

The study sought to determine the response rate as presented in Table 4.1

Table 4.1 Response Rate

Response rate	Frequency	Percentage
Responded	61	73.5
Did Not respond	22	26.5
Total	83	100

The research targeted 83 ECDE teachers. As such, 83 questionnaires were issued to the respondents. Out of the 83 distributed questionnaires 61 questionnaires were dully filled and returned. This translates to a response rate of 73.5%.

4.3 Characteristics of the Respondents

The study sought to determine the demographic information of the respondents based on gender, age bracket, work experience, name of employer and professional qualification.

4.3.1 Gender of the Respondents

The gender of the respondents was first sought since the findings would assist the study categorize respondents based on gender and the findings are show in Table 4.2

Table 4.2 Gender of the Respondents

Gender	Frequency	Percentage
Male	12	19.7
Female	49	80.3
Total	61	100

The findings in Table 4.2 shows that 49(80.3%) of respondents were female while 12(19.7%) were male.

4.3.2 Type of Public ECDE schools

The study further sought to know the type of ECDE schools since the findings would assist the study categorize respondents based on the type of ECDE schools and the findings are show in Table 4.3.

Table 4.3 Type of ECDE School

Type of ECDE Centre	Frequency	Percentage
Public	44	72.1
Private	22	36.1
Total	61	100

The findings in Table 4.3 showed that 44(72.1%) of the respondents were from public centers while 22(36.1%) were from private schools.

4.3.3 Age Bracket of the Respondents

The age of the respondents was sought since its findings assisted in the study respondents were categorized based on age. The study findings are presented in Table 4.4.

Table 4.4 Age Bracket

Age Bracket	Frequency	Percentage
25 years and below	10	16.4
25-35 years	36	59
36-44 years	8	13.1
45 years and above	7	11.5
Total	61	100.0

The study findings in Table 4.4 showed that 10(16.4%) of the respondents were aged below 25 years, 36(59%) were aged between 25 and 36 years, 8(13.1%) were aged between 36 and 44 years and 7(11.5%) were aged above 45 years and above.

4.3.4 Experience of Teachers.

The study sought to determine the years the experience of teachers. The study results are summarized in Table 4.5.

Table 4.5 Experience of Teachers

Experience of Teachers	Frequency	Percentage
Below 5 years	9	14.8
6-10 years	36	59
11-15 years	6	9.8
15 years and above	5	8.2
Total	61	100.0

The study results in Table 4.5 shows that 9(14.8%) have been teaching for below 5 years, 36(59%) for 6-10 years, 6(9.8%) for 11-15 years and 5(8.2%) for 14 years and above. The study finding implies that the respondents have been teaching in various public ECDE schools enough to understand the topic under the study leading to improved academic performance amongst learners.

4.3.5 Name of Employer

The study further sought to know the name of employer since the findings would assist the study categorize respondents based on the name of employer and the findings are show in Table 4.6.

Table 4.6 Name of Employer

Name of Employer	Frequency	Percentage
County Government	35	57.4
Board of management	26	42.6
Total	61	100

The findings in Table 4.6 shows that 35(57.4%) of the respondents were employed by board of management while 26(42.6%) were employed by county government.

4.3.6 Highest Level of Education

Academic qualification of the respondents was sought since its findings would assist the study categorize respondents based on their academic qualifications and findings are shown in Table 4.7.

Table 4.7 Highest Level of Education

Highest Level of Education	Frequency	Percentage
Certificate	17	27.9
Diploma	18	29.5
Degree	16	26.2
Masters	10	16.4
Total	61	100.0

The findings in Table 4.7 shows that 17(27.9%) of the respondents had certificate level, 18(29.5%) had diploma, 16(26.2%) had degree and 10(16.4%) had masters.

4.4 Presentation of Research Analysis and Findings

This section of the study presents the findings from the analysis of data on influence of classroom environment on children academic performance in public ECDE schools in Keiyo North Sub-County. Results are also presented for correlation and regression analysis.

4.4.1 Influence of Class Activities Teaching Learning on Teaching/Learning

The study sought to investigate the influence of class activities teaching learning on teaching/learning. This section represents the descriptive statistics in relation to the study namely; Mathematics, Christian Religious Education, Kiswahili literacy and indigenous languages and English. To achieve this, a five-point likert scale was used where; 1=Never, 2= rarely, 3=Frequently.4=Very frequently.

4.4.1.1 Mathematics

The study first sought to find out the influence of mathematics teacher-learner activities on children's performance in public ECDE Centres in Keiyo North sub-county. The purpose of this analysis was to get the responses on mathematics using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.8. Key: 1=Never, 2= Rarely 3=Frequently.4=Very frequently.

Table 4.8 Mathematics

Statements		Very frequent	Frequently	Rarely	Never
I use observation when teaching in class	F	36	14	8	3
	%	59	22.9	13.1	4.9
I use counting when teaching in class	F	36	11	9	5
	%	59	18	14.8	8.2
I use drawing when teaching in class	F	37	4	10	10
	%	60.7	6.6	16.4	16.4
I use numbering when teaching in class	F	38	3	19	1
	%	62.3	4.9	31.1	1.6
I use measuring when teaching in class	F	39	7	11	4
	%	63.9	11.5	18	6.6

Table 4.8 shows that 36(59%) of the respondents stated that they very frequently use observation when teaching in class 14(22.9%) of the respondents stated that they frequently use, 8(13.1%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 36(59%) of the respondents stated that they very frequently use counting when teaching in class 11(18%) of the respondents stated that

they frequently use, 9(14.8%) of the respondents stated that they rarely use and 5(8.2%) of the respondents stated that they never use.

Further, 37(60.7%) of the respondents stated that they very frequently use drawing when teaching in class 4(6.6%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 10(16.4%) of the respondents stated that they never use. Furthermore, 38(62.3%) of the respondents stated that they very frequently use numbering when teaching in class 3(4.9%) of the respondents stated that they frequently use, 19(31.1%) of the respondents stated that they rarely use and 1(1.6%) of the respondents stated that they never use.

Finally, 39(63.9%) of the respondents stated that they very frequently use measuring when teaching in class 7(11.5%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 4(6.6%) of the respondents stated that they never use. The study also reveals that ECDE teachers use observation, counting, drawing, numbering and measuring when teaching mathematics in class.

4.4.1.2 Christian Religious Education

The study also sought to find out the influence of Christian religion education teacher-learner activities on children performance in public ECDE Centres in Keiyo North sub-county. The purpose of this analysis was to get the responses on Christian religion education using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.9. Key: 1=Never, 2= Rarely 3=Frequently,4=Very frequently.

Table 4.9 Christian Religious Education

Statements		Very frequently	Frequently	Rarely	Never
I use colouring when teaching in class	F	32	14	9	6
	%	52.5	22.9	14.8	9.8
I use reciting poems/verses when teaching in class	F	35	13	6	7
	%	57.4	21.3	9.8	11.5
I use singing when teaching in class	F	29	10	11	11
	%	47.5	16.4	18	18
I use reading when teaching in class	F	38	1	15	7
	%	62.3	1.6	24.5	11.5
I use observation when teaching in class	F	42	5	11	3
	%	68.9	8.2	18	4.9
I use role playing when teaching in class	F	41	5	15	0
	%	67.2	8.2	24.6	0.0

Table 4.9 shows that 32(52.5%) of the respondents stated that they very frequently use colouring when teaching in class 14(22.9%) of the respondents stated that they frequently use, 9(14.8%) of the respondents stated that they rarely use and 6(7%) of the respondents stated that they never use. Also, 35(57.4%) of the respondents stated that they very frequently use reciting poems/verses when teaching in class 13(21.3%) of the respondents stated that they frequently use, 6(9.8%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Further, 29(47.5%) of the respondents stated that they very frequently use singing when teaching in class 10(16.4%) of the respondents stated that they frequently use,

11(18%) of the respondents stated that they rarely used and 11(18%) of the respondents stated that they never use. Furthermore, 38(62.3%) of the respondents stated that they very frequently use reading when teaching in class 1(1.6%) of the respondents stated that they frequently use, 15(24.5%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Another, 42(68.9%) of the respondents stated that they very frequently use observation when teaching in class 5(8.2%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Finally, 41(67.2%) of the respondents stated that they very frequently use role playing when teaching in class 5(8.2%) of the respondents stated that they frequently use and 15(24.6%) of the respondents stated that they rarely use.

4.4.1.3 Kiswahili Literacy and Indigenous Languages

The study sought to find out the influence of Kiswahili literacy and indigenous languages and English teacher-learner activities on children performance in public ECDE Centres in Keiyo North sub-county. The purpose of this analysis was to get the responses on Kiswahili literacy and indigenous languages and English using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.10. Key: 1=Never, 2= Rarely, 3=Frequently.4=Very frequently.

Table 4.10 Kiswahili Literacy And Indigenous Languages

Statements		Very frequent	Frequently	Rarely	Never
I use singing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use observation when teaching in class	F	40	7	7	7
	%	65.5	11.5	11.5	11.5
I use role playing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use demonstration when teaching in class	F	32	4	13	12
	%	52.5	6.6	21.3	19.7
I use dramatization when teaching in class	F	36	7	15	3
	%	59	11.5	24.5	4.9
I use reading when teaching in class	F	40	8	13	0
	%	65.6	13.1	21.3	0
I use Reciting when teaching in class	F	39	6	7	9
	%	63.9	9.8	11.5	14.8
I use drawing when teaching in class	F	32	5	16	8
	%	52.5	8.2	26.2	13.1
I use colouring when teaching in class	F	38	5	11	7
	%	62.3	8.2	18	11.5

Table 4.10 shows that 41(67.2%) of the respondents stated that they very frequently use singing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 40(65.5%) of the respondents stated that they very frequently use observation when teaching in class 7(11.5%) of the respondents stated that they frequently use, 7(11.5%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Further, 41(67.2%) of the respondents stated that they very frequently use role playing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Another, 32(52.5%) of the respondents stated that they very frequently use demonstration when teaching in class 4(6.6%) of the respondents stated that they frequently use, 13(21.3%) of the respondents stated that they rarely use and 12(19.7%) of the respondents stated that they never use.

Furthermore, 36(59%) of the respondents stated that they very frequently use dramatization when teaching in class 7(11.5%) of the respondents stated that they frequently use, 15(24.5%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 40(65.6%) of the respondents stated that they very frequently use reading when teaching in class 8(13.1%) of the respondents stated that they frequently use and 13(21.3%) of the respondents stated that they rarely use.

Further, 39(63.9%) of the respondents stated that they very frequently use Reciting when teaching in class 6(9.8%) of the respondents stated that they frequently use, 7(11.5%) of the respondents stated that they rarely use and 9(14.8%) of the respondents stated that they never use. Furthermore, 32(52.5%) of the respondents stated that they very frequently use drawing when teaching in class 5(8.2%) of the respondents stated that they frequently use, 16(26.2%) of the respondents stated that they rarely use and 8(13.1%) of the respondents stated that they never use. Finally, 38(62.3%) of the respondents stated that they very frequently use colouring when teaching in class 5(8.2%) of the respondents stated

that they frequently use, 11(18%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

4.4.1.4 English

The study first sought to find out the influence of English teacher-learner activities on children;s academic performance in public ECDE Centres. The purpose of this analysis was to get the responses on English using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.11.

Table 4.11 English

Statements		Very frequent	Frequently	Rarely	Never
I use singing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use observation when teaching in class	F	40	7	7	7
	%	65.5	11.5	11.5	11.5
I use role playing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use demonstration when teaching in class	F	32	4	13	12
	%	52.5	6.6	21.3	19.7
I use dramatization when teaching in class	F	36	7	15	3
	%	59	11.5	24.5	4.9
I use reading when teaching in class	F	40	8	13	0
	%	65.6	13.1	21.3	0
I use Reciting when teaching in class	F	39	6	7	9
	%	63.9	9.8	11.5	14.8
I use drawing when teaching in class	F	32	5	16	8
	%	52.5	8.2	26.2	13.1
I use colouring when teaching in class	F	38	5	11	7
	%	62.3	8.2	18	11.5

Table 4.11 shows that 41(67.2%) of the respondents stated that they very frequently use singing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 40(65.5%) of the respondents stated that they very frequently use observation when teaching in class 7(11.5%) of the respondents stated that they frequently use, 7(11.5%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Further, 41(67.2%) of the respondents stated that they very frequently use role playing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Another, 32(52.5%) of the respondents stated that they very frequently use demonstration when teaching in class 4(6.6%) of the respondents stated that they frequently use, 13(21.3%) of the respondents stated that they rarely use and 12(19.7%) of the respondents stated that they never use.

Furthermore, 36(59%) of the respondents stated that they very frequently use dramatization when teaching in class 7(11.5%) of the respondents stated that they frequently use, 15(24.5%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 40(65.6%) of the respondents stated that they very frequently use reading when teaching in class 8(13.1%) of the respondents stated that they frequently use and 13(21.3%) of the respondents stated that they rarely use.

Further, 39(63.9%) of the respondents stated that they very frequently use Reciting when teaching in class 6(9.8%) of the respondents stated that they frequently use, 7(11.5%)

of the respondents stated that they rarely use and 9(14.8%) of the respondents stated that they never use. Furthermore, 32(52.5%) of the respondents stated that they very frequently use drawing when teaching in class 5(8.2%) of the respondents stated that they frequently use, 16(26.2%) of the respondents stated that they rarely use and 8(13.1%) of the respondents stated that they never use. Finally, 38(62.3%) of the respondents stated that they very frequently use colouring when teaching in class 5(8.2%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

4.4.1.5 Movement and Creative Activities

The study first sought to find out the influence of Movement and creative activities teacher-learner activities on children performance in public ECDE Centres in Keiyo North sub-county. The purpose of this analysis was to get the responses on Movement and creative activities using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.12. Key: 1=Never, 2= rarely, 3=Frequently.4=Very frequently.

Table 4.12 Movement And Creative Activities

Statements		Very frequent	Frequently	Rarely	Never
I use singing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use observation when teaching in class	F	40	6	6	8
	%	65.6	9.8	9.8	13.1
I use drawing when teaching in class	F	41	7	10	3
	%	67.2	11.5	16.4	4.9
I use colouring when teaching in class	F	32	4	13	12
	%	52.5	6.6	21.3	19.7
I use role playing when teaching in class	F	36	7	15	3
	%	59	11.5	24.6	4.9
I use swimming games when teaching in class	F	40	8	13	0
	%	65.6	13.1	21.2	0
I use floatation devices when teaching in class	F	39	6	7	9
	%	63.9	9.8	11.5	14.7
I use painting when teaching in class	F	32	5	16	8
	%	52.5	8.2	26.2	13.1
I use modelling when teaching in class	F	38	5	11	7
	%	62.3	8.2	18	11.5
I use modelling when teaching in class	F	38	1	15	7
	%	62.3	1.6	24.6	11.5
I use weaving when teaching in class	F	42	5	11	3
	%	68.9	8.2	18	4.9

Table 4.12 shows that 41(67.2%) of the respondents stated that they very frequently use singing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use.

Also, 40(65.6%) of the respondents stated that they very frequently use observation when teaching in class 6(9.8%) of the respondents stated that they frequently use, 6(9.8%) of the respondents stated that they rarely use and 8(13.1%) of the respondents stated that they never use. Further, 41(67.2%) of the respondents stated that they very frequently use drawing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 10(6.4%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use.

Another, 32(52.5%) of the respondents stated that they very frequently use colouring when teaching in class 4(6.6%) of the respondents stated that they frequently use, 13(21.3%) of the respondents stated that they rarely use and 12 (19.7%) of the respondents stated that they never use. Furthermore, 36(59%) of the respondents stated that they very frequently use role playing when teaching in class 7(11.5%) of the respondents stated that they frequently use, 15(24.6%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use.

Another, 40(65.6%) of the respondents stated that they very frequently use swimming games when teaching in class 8(13.1%) of the respondents stated that they frequently use and 13(21.1%) of the respondents stated that they rarely use. Also, 39(63.9%) of the respondents stated that they very frequently use floatation devices when teaching in class 6(9.8%) of the respondents stated that they frequently use, 7(11.5%) of the respondents stated that they rarely use and 9(14.7%) of the respondents stated that they never use. Further, 32(52.5%) of the respondents stated that they very frequently use painting when teaching in class 5(8.2%) of the respondents stated that they frequently use,

16(26.2%) of the respondents stated that they rarely use and 8(13.1%) of the respondents stated that they never use.

Also, 38(62.3%) of the respondents stated that they very frequently use modelling when teaching in class 5(8.2%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use. Another, 38(62.3%) of the respondents stated that they very frequently use weaving when teaching in class 1(1.6%) of the respondents stated that they frequently use, 15(24.6%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use. Finally, 42(68.9%) of the respondents stated that they very frequently use dancing when teaching in class 5(8.2%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use.

4.4.2 Use of Teaching Methods

The respondents were further asked to rate the following teaching methods according to how frequently you use them to teach your class. The study results are presented in Table 4.13. Key: 1=Never, 2= Rarely 3=Frequently.4=Very frequently.

Table 4.13 Use of Teaching Methods

Statements		Very frequent	Frequently	Rarely	Never
I use story telling when teaching in class	F	49	5	6	1
	%	80.3	8.2	9.8	1.6
I use observation when teaching in class	F	44	5	5	7
	%	72.1	8.2	8.2	11.5
I use field trips when teaching in class	F	47	3	8	3
	%	77.0	4.9	1.2	4.9
I use singing when teaching in class	F	36	2	11	12
	%	59	3.3	18	19.7
I use dramatization when teaching in class	F	39	4	15	3
	%	63.9	6.6	24.6	4.9
I use class experiments when teaching in class	F	46	5	10	0
	%	75	8.2	16.4	0
I use reciting rhymes when teaching in class	F	44	3	7	7
	%	72.1	4.9	11.5	11.5
I use audio visual presentation when teaching in class	F	37	5	11	8
	%	60.7	8.2	18	13.1
I use reciting poems when teaching in class	F	42	2	10	7
	%	68.9	3.3	16.4	11.5
I use of open-ended questions when teaching in class	F	38	1	15	7
	%	62.3	1.6	24.6	11.5
I use of resource persons when teaching in class	F	35	17	9	0
	%	57.4	27.9	14.8	0

Table 4.13 shows that 49(80.3%) of the respondents stated that they very frequently use story telling when teaching in class 5(8.2%) of the respondents stated that they frequently use, 6(9.8%) of the respondents stated that they rarely use and 1(1.6%) of the

respondents stated that they never use. Also, 44(72.1%) of the respondents stated that they very frequently use observation when teaching in class 5(8.2%) of the respondents stated that they frequently use, 5(8.2%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Further, 47(77%) of the respondents stated that they very frequently use field trips when teaching in class 3(4.9%) of the respondents stated that they frequently use, 8(12.2%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Also, 36(59%) of the respondents stated that they very frequently use singing when teaching in class 2(3.3%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 12(19.7%) of the respondents stated that they never use.

Another, 39(63.9%) of the respondents stated that they very frequently use dramatization when teaching in class 4(6.6%) of the respondents stated that they frequently use, 15(24.6%) of the respondents stated that they rarely use and 3(4.9%) of the respondents stated that they never use. Further, 46(75%) of the respondents stated that they very frequently use class experiments when teaching in class 5(8.2%) of the respondents stated that they frequently use and 10(16.4%) of the respondents stated that they rarely use. Also, 44(72.1%) of the respondents stated that they very frequently use reciting rhymes when teaching in class 3(4.9%) of the respondents stated that they frequently use, 7(11.5%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Further, 37(60.7%) of the respondents stated that they very frequently use audio visual presentation when teaching in class 5(8.2%) of the respondents stated that they frequently use, 11(18%) of the respondents stated that they rarely use and 8(13.1%) of the respondents stated that they never use. Also, 42(68.9%) of the respondents stated that they very frequently use reciting poems when teaching in class 2(3.3%) of the respondents stated that they frequently use, 10(16.4%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use. Furthermore, 38(62.3%) of the respondents stated that they very frequently use open ended questions when teaching in class 1(1.6%) of the respondents stated that they frequently use, 15(24.6%) of the respondents stated that they rarely use and 7(11.5%) of the respondents stated that they never use.

Finally, 35(57.4%) of the respondents stated that they very frequently use resource persons when teaching in class 17(27.9%) of the respondents stated that they frequently use and 9(14.8%) of the respondents stated that they rarely use.

4.4.3 Adequacy of Teaching/learning Resources and Children Academic Performance

The study sought to investigate the availability of class activities teaching learning on teaching/learning. This section represents the descriptive statistics in relation to the subjects namely; Mathematics, Christian Religious Education, Kiswahili literacy and indigenous languages and English. To achieve this, a five-point likert scale was used where; 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate.

4.4.3.1 Mathematics

The study sought to find out the availability of mathematics resources. The purpose of this analysis was to get the responses on mathematics availability of resources using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.14. Key: 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate.

Table 4.14 Mathematics

Statements		Available and adequate	Available but inadequate	Available but in poor conditions	Not available
Sticks	F	41	4	16	1
	%	67.2	6.6	26.2	1.6
Stones	F	45	5	8	3
	%	73.8	8.2	1.3	4.9
Grains	F	47	7	5	2
	%	77	11.5	8.2	3.3
Marbles	F	47	10	1	3
	%	77	16.4	1.6	4.9
Place value chart	F	48	3	5	5
	%	78.7	4.9	8.2	8.2
Strings	F	45	13	3	0
	%	73.7	21.3	4.9	0
Cut outs	F	46	5	7	3
	%	75.4	8.2	11.5	4.9
Number line	F	46	3	7	5
	%	75.4	4.9	11.5	8.2
Bottles	F	43	0	9	9
	%	70.5	0	14.8	14.8
Rulers	F	47	4	5	5
	%	77	6.6	8.2	8.2
Stones	F	51	2	3	5
	%	83.6	3.3	4.9	8.2
Pieces of wood	F	52	5	4	0
	%	85	8.2	65.6	0

Table 4.14 shows that 41(67.2%) of the respondents stated that sticks were available and adequate, 4(6.6%) stated that they were available and inadequate; 16(26.2%)

stated that they were available but in poor conditions and 1(1.6%) stated that they were not available. Also, 45(73.8%) of the respondents stated that the stones were available and adequate, 5(8.2%) stated that they were available and inadequate; 8(1.3%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Further, 47(77%) of the respondents stated that the grains were available and adequate, 7(11.5%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available. Another, 47(77%) of the respondents stated that the marbles were available and adequate, 10(16.4%) stated that they were available and inadequate; 1(1.6%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Furthermore, 48(78.7%) of the respondents stated that the place value chart were available and adequate, 3(4.9%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Also, 45(73.7%) of the respondents stated that the strings were available and adequate, 13(21.3%) stated that they were available and inadequate and 3(4.9%) stated that they were available but in poor conditions. Another, 46(75.4%) of the respondents stated that cut outs were available and adequate, 5(8.2%) stated that they were available and inadequate; 7(11.5%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Furthermore, 46(75.4%) of the respondents stated that the number line was available and adequate, 3(4.9%) stated that they were available and inadequate; 7(11.5%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not

available. Also, 43(70.5%) of the respondents stated that the bottles were available and adequate, 9(14.8%) stated that they were available but in poor conditions and 9(14.8%) stated that they were not available. Further, 47(77%) of the respondents stated that the rulers were available and adequate, 4(6.6%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Another, 51(83.6%) of the respondents stated that the stones were available and adequate, 2(3.3%) stated that they were available and inadequate; 3(4.9%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Finally, 52(85%) of the respondents stated that the containers were available and adequate, 5(8.2%) stated that they were available and inadequate and 4(6.5%) stated that they were available but in poor conditions.

4.4.3.2 Christian Religious Education

The study sought to find out the availability of Christian Religious Education resources. The purpose of this analysis was to get the responses on Christian Religious Education availability of resources using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.15. Key: 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate.

Table 4.15 Christian Religious Education

Statements		Available and adequate	Available but inadequate	Available but in poor conditions	Not available
Clay	F	43	10	3	5
	%	70.5	16.4	4.9	8.2
Holy bible	F	46	14	1	0
	%	75.4	22.9	1.6	0
Flash cards	F	47	4	5	5
	%	77	6.6	8.2	8.2
Videos	F	43	10	7	1
	%	70.5	16.4	11.5	1.6
Charts	F	42	10	6	3
	%	68.9	16.4	9.8	4.9
Photographs	F	44	7	7	3
	%	72.1	11.5	11.5	4.9
Hymn books	F	46	4	10	1
	%	75.4	6.6	16.4	1.6
Crayons	F	48	5	5	3
	%	78.7	8.2	8.2	4.9
Plasticines	F	42	10	4	5
	%	68.9	16.4	6.6	8.2
Dolls	F	41	13	4	3
	%	67.2	21.3	6.6	4.9
Picture cards	F	44	11	6	0
	%	72.1	18	9.8	0

Table 4.15 shows that 43(70.5%) of the respondents stated that clay was available and adequate, 10(16.4%) stated that they were available and inadequate; 3(4.9%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not

available. Also, 46(75.4%) of the respondents stated that the holy bible was available and adequate, 14(22.9%) stated that they were available and inadequate and 1(1.6%) stated that they were available but in poor conditions.

Further, 47(77%) of the respondents stated that the flashcards were available and adequate, 4(6.6%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Also, 43(70.5%) of the respondents stated that the videos were available and adequate, 10(16.4%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Another, 42(68.9%) of the respondents stated that the charts were available and adequate, 10(16.4%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available. Furthermore, 44(72.1%) of the respondents stated that the Photographs were available and adequate, 7(11.5%) stated that they were available and inadequate; 7(11.4%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Further, 46(75.4%) of the respondents stated that the hymn books were available and adequate, 4(6.6%) stated that they were available and inadequate; 10(6.4%) stated that they were available but in poor conditions and 1(1.6%) stated that they were not available. Also, 48(78.7%) of the respondents stated that the crayons were available and adequate, 10(16.4%) stated that they were available and inadequate; 1(1.6%) stated that they were available but in poor conditions and (%) stated that they were not available.

Another, 42(68.9%) of the respondents stated that the Plasticines were available and adequate, 10(16.4%) stated that they were available and inadequate; 4(6.6%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Further, 41(67.2%) of the respondents stated that the dolls were available and adequate, 13(21.3%) stated that they were available and inadequate; 4(6.6%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Finally, 44(72.1%) of the respondents stated that the picture cards were available and adequate, 11(18%) stated that they were available and inadequate and 6(9.8%) stated that they were available but in poor conditions.

4.4.3.3 Kiswahili literacy and indigenous languages

The study sought to find out the availability of Kiswahili literacy and indigenous languages. The purpose of this analysis was to get the responses on Kiswahili literacy and indigenous languages availability of resources using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.16. Key: 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate

Table 4.16 Kiswahili literacy and indigenous languages

Statements		Available and adequate	Available but not adequate	Available but in poor condition	Not available
Flash cards	F	40	4	15	2
	%	65.6	6.6	24.5	3.3
Word puzzles	F	39	10	9	3
	%	63.9	16.4	14.8	4.9
Crayons	F	35	9	12	5
	%	57.4	14.8	19.7	8.2
Writing slates	F	42	5	6	8
	%	68.9	8.2	9.8	13.1
Newspaper	F	42	5	8	6
	%	68.9	8.2	13.1	9.8
Magazines	F	48	0	9	4
	%	78.7	0	14.8	6.6
Audio visuals	F	45	3	11	2
	%	73.7	4.9	18	3.3
Picture cards	F	44	2	10	5
	%	72.1	3.3	16.4	8.2
Charts	F	41	4	11	5
	%	67.2	6.6	18	8.2
Word cards	F	43	0	11	7
	%	70.5	0	18	11.5
Word wheels	F	42	6	12	1
	%	68.9	9.8	19.7	1.6

Table 4.16 shows that 40(65.6%) of the respondents stated that flash cards were available and adequate, 4(6.6%) stated that they were available and inadequate; 15(24.5%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not

available. Also, 39(63.9%) of the respondents stated that the Word puzzles were available and adequate, 10(16.4%) stated that they were available and inadequate; 9(14.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Also, 35(57.4%) of the respondents stated that the crayons were available and adequate, 9(14.8%) stated that they were available and inadequate; 12(19.7%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Another, 42(68.9%) of the respondents stated that the Writing slates were available and adequate, 5(8.2%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 8(13.1%) stated that they were not available.

Also, 42(68.9%) of the respondents stated that the newspaper was available and adequate, 5(8.2%) stated that they were available and inadequate; 8(13.1%) stated that they were available but in poor conditions and 6(9.8%) stated that they were not available. Further, 48(78.7%) of the respondents stated that the magazines were available and adequate, 9(14.8%) stated that they were available but in poor conditions and 4(6.6%) stated that they were not available.

Also, 45(73.7%) of the respondents stated that the audio visuals were available and adequate, 3(4.9%) stated that they were available and inadequate; 11(18%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available. Further, 44(72.1%) of the respondents stated that the picture cards were available and adequate, 2(3.3%) stated that they were available and inadequate; 10(16.4%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available.

Also, 41(67.2%) of the respondents stated that the charts were available and adequate, 4(6.6%) stated that they were available and inadequate; 11(18%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Further, 43(70.5%) of the respondents stated that the word cards were available and adequate, 11(18%) stated that they were available but in poor conditions and 7(11.5%) stated that they were not available.

Finally, 42(68.9%) of the respondents stated that the word wheels were available and adequate, 6(9.8%) stated that they were available and inadequate; 12(19.7%) stated that they were available but in poor conditions and 1(1.6%) stated that they were not available.

4.4.3.4 English

The study sought to find out the availability of English. The purpose of this analysis was to get the responses on English availability of resources using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.17. Key: 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate.

Table 4.17 English

Statements		Available and adequate	Available but not adequate	Available but in poor condition	Not available
Flash cards	F	40	4	15	2
	%	65.6	6.6	24.5	3.3
Word puzzles	F	39	10	9	3
	%	63.9	16.4	14.8	4.9
Crayons	F	35	9	12	5
	%	57.4	14.8	19.7	8.2
Writing slates	F	42	5	6	8
	%	68.9	8.2	9.8	13.1
Newspaper	F	42	5	8	6
	%	68.9	8.2	13.1	9.8
Magazines	F	48	0	9	4
	%	78.7	0	14.8	6.6
Audio visuals	F	45	3	11	2
	%	73.7	4.9	18	3.3
Picture cards	F	44	2	10	5
	%	72.1	3.3	16.4	8.2
Charts	F	41	4	11	5
	%	67.2	6.6	18	8.2
Word cards	F	43	0	11	7
	%	70.5	0	18	11.5
Word wheels	F	42	6	12	1
	%	68.9	9.8	19.7	1.6

Table 4.17 shows that 40(65.6%) of the respondents stated that flash cards were available and adequate, 4(6.6%) stated that they were available and inadequate; 15(24.5%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not

available. Also, 39(63.9%) of the respondents stated that the Word puzzles were available and adequate, 10(16.4%) stated that they were available and inadequate; 9(14.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Further, 35(57.4%) of the respondents stated that the crayons were available and adequate, 9(14.8%) stated that they were available and inadequate; 12(19.7%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available. Another, 42(68.9%) of the respondents stated that the Writing slates were available and adequate, 5(8.2%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 8(13.1%) stated that they were not available.

Further, 42(68.9%) of the respondents stated that the newspaper was available and adequate, 5(8.2%) stated that they were available and inadequate; 8(13.1%) stated that they were available but in poor conditions and 6(9.8%) stated that they were not available. Also, 48(78.7%) of the respondents stated that the magazines were available and adequate, 9(14.8%) stated that they were available but in poor conditions and 4(6.6%) stated that they were not available. Further, 45(73.7%) of the respondents stated that the audio visuals were available and adequate, 3(4.9%) stated that they were available and inadequate; 11(18%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available.

Furthermore, 44(72.1%) of the respondents stated that the picture cards were available and adequate, 2(3.3%) stated that they were available and inadequate; 10(16.4%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not

available. Also, 41(67.2%) of the respondents stated that the charts were available and adequate, 4(6.6%) stated that they were available and inadequate; 11(18%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available.

Further, 43(70.5%) of the respondents stated that the word cards were available and adequate, 11(18%) stated that they were available but in poor conditions and 7(11.5%) stated that they were not available. Finally, 42(68.9%) of the respondents stated that the word wheels were available and adequate, 6(9.8%) stated that they were available and inadequate; 12(19.7%) stated that they were available but in poor conditions and 1(1.6%) stated that they were not available.

4.4.3.5 Movement and Creative Activities

The study sought to find out the availability of Movement and Creative Activities resources. The purpose of this analysis was to get the responses on Movement and Creative Activities availability of resources using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.18. Key: 1=Not available, 2= available but in poor condition, 3=Available but inadequate.4=Available and adequate

Table 4.18 Movement and creative activities

Statements		Available and adequate	Available but inadequate	available but in poor condition	Not available
Bean bags	F	46	4	10	1
	%	75.4	6.6	16.4	1.6
Ropes	F	43	5	11	2
	%	70.5	8.2	18	3.3
Field markers	F	47	6	6	2
	%	77	9.8	9.8	3.3
Video clips	F	49	5	2	5
	%	80.3	8.2	3.3	8.2
Pebbles	F	50	2	7	2
	%	82	3.3	11.5	3.3
Digital devices	F	49	3	6	3
	%	80.3	4.9	9.8	4.9
Paint	F	49	4	5	3
	%	80.3	6.6	8.2	4.9
Brushes	F	50	2	4	5
	%	81.9	3.3	6.6	8.2
Painted fabrics	F	52	4	4	1
	%	85	6.6	6.6	1.6
Cutting tools	F	51	3	3	4
	%	83.6	4.9	4.9	6.6
Rubber bands	F	47	5	6	3
	%	77.1	8.2	9.8	4.9
Straws	F	42	5	6	3
	%	68.8	8.2	9.8	4.9
Bottle tops	F	45	7	5	4
	%	73.77	11.5	8.2	6.6
Pencils	F	44	3	7	7
	%	72.1	4.9	11.5	11.5
Musical instruments	F	30	6	17	8
	%	49.2	9.8	27.9	13.1

Table 4.18 shows that 46(75.4%) of the respondents stated that bean bags were available and adequate, 4(6.6%) stated that they were available and inadequate; 10(16.4%) stated that they were available but in poor conditions and 1(1.6%) stated that they were not available. Also, 43(70.5%) of the respondents stated that the ropes were available and adequate, 5(8.2%) stated that they were available and inadequate; 11(18%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available.

Further, 47(77%) of the respondents stated that the field makers were available and adequate, 6(9.8%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available. Also, 49(80.3%) of the respondents stated that the video clips were available and adequate, 5(8.2%) stated that they were available and inadequate; 2(3.3%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available.

Furthermore, 50(82%) of the respondents stated that the pebbles were available and adequate, 2(3.3%) stated that they were available and inadequate; 7(11.5%) stated that they were available but in poor conditions and 2(3.3%) stated that they were not available. Also, 49(80.3%) of the respondents stated that the digital devices were available and adequate, 3(4.9%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Another, 49(80.3%) of the respondents stated that the paints were available and adequate, 4(6.6%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available. Furthermore, 50(81.9%) of the respondents stated that the brushes were available and

adequate, 2(3.3%) stated that they were available and inadequate; 4(6.6%) stated that they were available but in poor conditions and 5(8.2%) stated that they were not available.

Also, 52(85%) of the respondents stated that the painted fabrics were available and adequate, 4(6.6%) stated that they were available and inadequate; 4(6.6%) stated that they were available but in poor conditions and 1(1.6%) stated that they were not available. Further, 51(83.6%) of the respondents stated that the cutting tools were available and adequate, 3(4.9%) stated that they were available and inadequate; 3(4.9%) stated that they were available but in poor conditions and 4(6.6%) stated that they were not available. Another, 47(77.1%) of the respondents stated that the rubber bands were available and adequate, 5(8.2%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available.

Also, 42(68.8%) of the respondents stated that the straws were available and adequate, 5(8.2%) stated that they were available and inadequate; 6(9.8%) stated that they were available but in poor conditions and 3(4.9%) stated that they were not available. Further, 45(73.8%) of the respondents stated that the bottle was available and adequate, 7(11.5%) stated that they were available and inadequate; 5(8.2%) stated that they were available but in poor conditions and 4(6.6%) stated that they were not available.

Finally, 44(72.1%) of the respondents stated that the pencils were available and adequate, 3(4.9%) stated that they were available and inadequate; 7(11.5%) stated that they were available but in poor conditions and 7(11.5%) stated that they were not available.

4.4.4 Influence of Class Sizes

The study sought to assess the influence of class size on children's performance in public ECDE Centres in Keiyo North sub-county.

4.4.4.1 Number of Pupils

The study first sought to determine the number of pupils per class. The study results are presented in Table 4.19.

Table 4.19 Number of Pupils

Number of Pupils	Frequency	Percentage
0-10 pupils	6	9.8
11-20 pupils	8	13.1
21-30 pupils	5	8.2
30 and above pupils	42	68.9
Total	61	100.0

Table 4.19 shows that 6(9.8%) of the respondents indicated that they had 0-10 pupils, 8(13.1%) indicated that they had 11-20 pupils, 5(8.2%) indicated that they had 21-30 pupils and 42(68.9%) indicated that they had 30 pupils and above.

4.4.4.2 Number of Teachers

The study also sought to determine the number of teachers per class. The study results are presented in Table 4.20.

Table 4.20 Number of Teachers

	Frequency	Percentage
One teacher	37	60.7
Two teachers	18	29.5
More than two teachers	6	9.8
Total	61	100.0

Table 4.20 shows that 37(60.7%) of the respondents indicated that they had one teacher, 18(29.5%) indicated that they had two teachers and 6(9.8%) indicated that they had more than two teachers.

4.4.4.3 Influence of Class Size

The study first sought to find out the effect of class size on pupil's performance. The purpose of this analysis was to get the responses on influence of class size using the frequency of respondents on a likert scale and the mean rate of the responses. The study results are presented in Table 4.21. Key: 1= strongly disagree, 2= disagree, 3=undecided, 4= Agree and 5= strongly agree.

Table 4.21 Influence of Class Size

Statements		SA	A	UD	D	SD
I am not able to give individual attentions due to large number of pupils	F	7	31	3	12	8
	%	11.5	50.8	4.9	19.7	13.1
I am not able to distribute materials for learner due to large number of pupils	F	4	43	4	7	3
	%	6.6	70.5	6.6	11.5	4.9
I am not able to gather for individual differences due to large number of pupils	F	6	48	6	1	0
	%	9.8	78.7	9.8	1.6	0
I am not able to assess all the pupils in all activity's areas due to large number of pupils	F	13	34	6	6	2
	%	21.3	55.7	9.8	9.8	3.3
Valid N		61				

Table 4.21 indicates that 7(11.5%) of the respondents strongly agree, 31(50.8%) agree, 3(4.9%) undecided, 12(19.7%) disagree and 8(13.1%) strongly disagree with the statement that they are not able to give individual attentions due to large number of pupils. Further, 4(6.6%) of the respondents strongly agree, 43(70.5%) agree, 4(6.6%) undecided, 7(11.5%) disagree and 3(4.9%) strongly disagree with the statement that they are not able to distribute materials for learner due to large number of pupils. Also, 6(9.8%) of the respondents strongly agree, 48(78.7%) agree, 6(9.8%) undecided and 1(1.6%) disagree with the statement that they not able to gather for individual differences due to large number of pupils. Finally, 13(21.3%) of the respondents strongly agree, 34(55.7%) agree,

6(9.8%) undecided, 6(9.8%) disagree and 2(3.3%) strongly disagree with the statement that they not able to assess all the pupils in all activity's areas due to large number of pupils.

4.4.5 Preschool children's Academic Performance

The researcher in collaboration with the preschool teachers from each of the 21 sampled ECD centres conducted a comprehensive assessment test (Appendix V). The ECD learner test comprised of science activity, creative activity, number work, language activity and environment activity. The test was marked out of 100 marks and the mean score of each centre ascertained. Table 4.22 shows the summarized results.

Table 4.22 Pupils' Mean Academic Performance

Marks (%)	Number of Schools	Proportion of schools (%)	of Rating
30 and below	3	14.3	Weak/Poor
31-49	7	33.3	Below average
50-59	8	38.1	Average
60-69	2	9.5	Good
70-79	1	4.8	Very Good
80 and above	0	0	Excellent
Total	21	100.0	-

As evident from Table 4.22, 11 schools comprising 47.6 % had a mean score of 49 marks and below while 8 schools comprising 38.1 % got mean of 50-59. Three schools had a mean of 60 and above. Although the results showed a normal curve, the test was constructed such that pupils who had normal school attendance should have managed at

least 60 marks. Thus, the high percentage (85.7 %) of schools which had a mean of 59 and below was an indicator that there were some factors hindering the expected performance.

4.5 Testing the Assumptions of Multiple Regression

The following multiple regression assumptions were tested;

4.5.1 Homoscedasticity Assumption

Residual plots of standardized predicted values against standardized residual values are used to test for homoscedasticity as showed in the pattern. Figure 4.1 showed that the variance of residuals is constant. Thus, there was no heteroscedasticity problem.

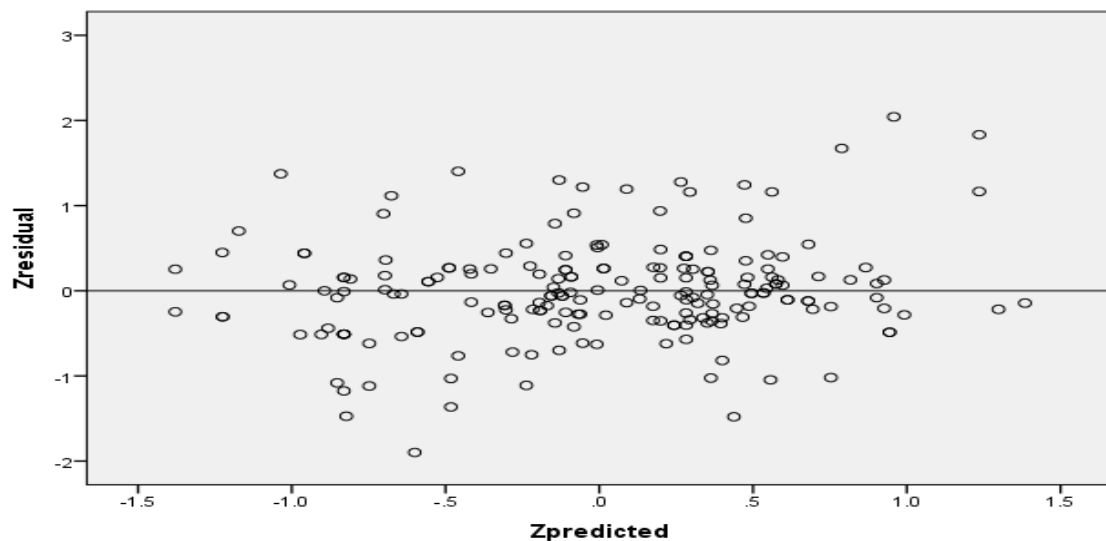


Figure 4.1: Residual plots of Regression standardized Residuals against Regression Standardized Predict Value

4.5.2 Normality Assumption

Normal Probability plots and Kolmogorov-Smirnov were used to find out if residuals follow normal probability distribution.

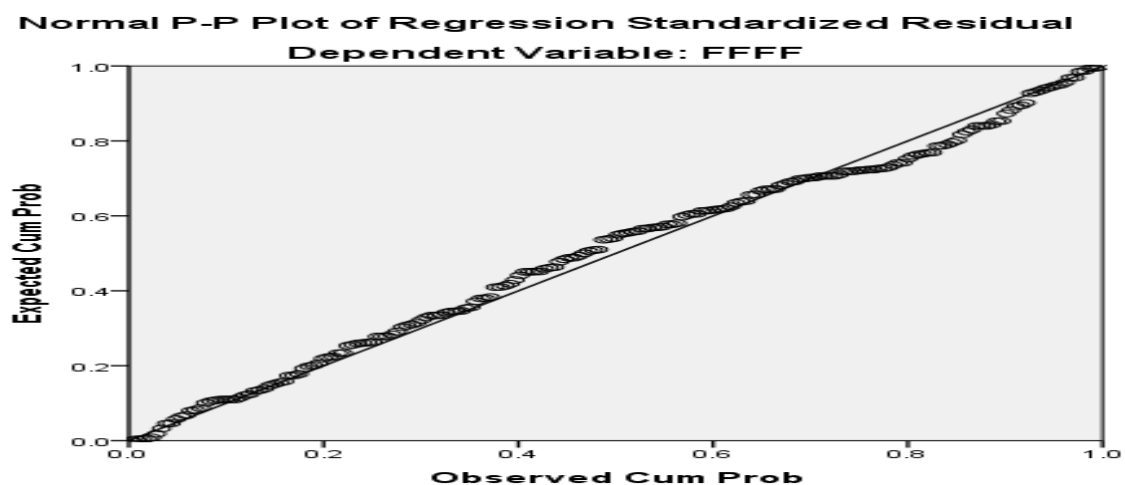


Figure 4.2: Normal P-P Plot of Regression Standardized Residual

The plotted points of residuals in the normal probability plot are almost along the straight line from the lower left to the upper right of the graph. This implied that our data is normally distributed.

Table 4.23 Normality Test

Variable	Kolmogorov- Smirnov Statistic	Sig
Teacher leaner activities	1.325	0.061
Teaching methods	0.821	0.632
Adequacy of teaching materials	0.758	0.705
Class number of children	0.892	0.640
Academic performance	0.799	0.745

The data is considered to come from a normal distribution if the significance value is greater than 0.05. Table 4.23 shows that all our sample values were above 0.05. This is an indication that our data is normally distributed.

4.5.3 Multicollinearity Assumption

Assumption of multicollinearity implied that there was no correlation between independent variables in the data. The study tested multicollinearity assumption by use of tolerance and variance inflation factor (VIF). Tolerance below 0.1 or VIF higher than 10 indicates multicollinearity problems. There was a potential problem if tolerance is below 0.2. Results of Analysis are shown in Table 4.24.

Table 4.24 Collinearity Statistics

Items	Tolerance	VIF
Teacher-learner activities	.759	1.121
Teaching methods	.881	1.201
Adequacy of teaching/learning resources	.911	1.154
Class number of children	.804	1.121

Teacher learner activities had a positive the lowest correlation with other independent variables (tolerance=0.759; VIF= 1.121). Teaching methods had the second lowest correlation with other independent variables (tolerance=0.881; VIF=1.201). Adequacy of teaching/learning resources had the Highest correlation with other independent variables (tolerance= 0.911; VIF=1.154). Class number of children had the second highest correlation with other independent variable (tolerance=0.804; VIF= 1.121). Tolerance level was close to 1 and VIF was also close to 1. This is far from the threshold of 0.1 and 10 for tolerance and VIF respectively. Therefore, no independent variable was removed from the analysis.

4.5.4 Independence of Residuals Assumption

The assumption of independence of residuals means the values of the residuals are independent. This implies that the observations or individual data points to be are uncorrelated. Autocorrelation occurs if residuals are correlated. The study used Durbin-Watson statistic to test for autocorrelation.

Table 4.25 Independence of Residuals Assumption

Multiple R	R square	Adjusted R	Standard error	Durbin Watson
.896	.803	.789	.388198	2.153048

The value of Durbin – Watson coefficient was 2.153048. The value of Durbin-Watson coefficient gets close to 0 when autocorrelation is positive of error terms and is above 2 when autocorrelation is negative. The recommended threshold of Durbin-Watson value is 1.5-2.5. Therefore, the Durbin-Watson Coefficient of 2.153048 indicated that observations are within the threshold.

4.6 Inferential Analysis

This section put across the relationship between independent variables and the dependent variable and also the influence of the independent variable on the dependent variable. Therefore, the section presents the results of both correlation and multiple regression analysis.

4.6.1 Relationship between Learner Activities and Children's Academic Performance

The relationship between teacher learner activities and children academic performance in public ECDE centres in Keiyo North Sub-County. Table 4.26 presents the results of correlation analysis.

Table 4.26 Correlation Analysis for project baselines

		Children Academic Performance
Teacher-learner activities	Pearson Correlation	.681**
	Sig. (2-tailed)	.001

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

The findings indicated that teacher-learner activities and children academic performance had a positive and statistically significant relationship ($r= 0.681$; $p<0.01$).

4.6.2 Relationship between Teaching Methods and Children's Academic performance

The relationship between teaching methods and children's academic performance was determined. Table 4.27 present the results.

Table 4.27 Relationship between Teaching Methods and Children's Academic Performance

		Children's academic Performance
Teaching Methods	Pearson Correlation	.877**
	Sig. (2-tailed)	.0008

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

The findings of the study indicated a positive and statistically significant relationship between teaching methods, and children academic ($r=0.877$; $p < 0.01$). Teaching methods had a positive influence on children academic performance.

4.6.3 Relationship between Adequacy of Teaching/learning Resources and Children's Academic Performance

The study further evaluated how adequacy of teaching/learning resources and children academic performance. The outcome of the analysis is as shown in Table 4.28

Table 4.28 Correlation Analysis for Adequacy of Teaching/learning Resources and Children's Academic Performance

	Children's Academic Performance
Adequacy of teaching resources	
Pearson Correlation	.883**
Sig. (2-tailed)	.001

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

The study established that there exist a positive and statistically ($r=0.883$; $p < 0.01$) relationship between Adequacy of teaching resources and Children's Academic performance.

4.6.4 Relationship between Class Number of Children and Children's Academic performance

In addition, the study analyzed the relationship between Class Number of Children and Children's Academic Performance. Table 4.29 illustrates the results.

Table 4.29 Correlation Analysis for Class Number of Children and Children's Academic Performance

Children's Academic Performance		
Class number of children	Pearson Correlation	.884**
	Sig. (2-tailed)	.000

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

It was noted that there exist a positive and statistically significant ($r=0.884$; $p < 0.01$) relationship between Class Number of Children and Children's Academic Performance.

4.7 Regression Analysis for Overall Model

The study examined the influence of classroom environment on children.s academic performance in public ECDE schools in Keiyo North Sub-County. Table 4.30 presents the results of multiple regression analysis.

Table 4.30 Multiple Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.8964	.8034	.789	.388198

- a. Predictors: (Constant), Teacher-learner activities, Teaching methods, Adequacy of teaching/learning resources and Class number of children
- b. Dependent Variable: children academic performance

The findings as shown in Table 4.30 indicate that the relationship between classroom environment and children's academic performance in public ECDE schools in Keiyo North Sub-County. Classroom environment focused on this study and children academic performance was positive ($R^2 = 0.89.6$). Findings indicate that 89.6% of the variation in children academic performance accounted for by the four independent variables in the study while 10.4% of the children academic performance resulted from other factors not included in the study.

4.7.1 Assessing the Fit of Multiple Regression Model

The study examined whether the multiple regression model was a good fit for the data. Analysis of Variance (ANOVA) was conducted in order to find out if children academic performance can be predicted without relying on the independent variables examined in the study. The results of Analysis of Variance (ANOVA) are shown in Table 4.31.

Table 4.31 Results of ANOVA

	Sum of Squares	DF	Mean Square	F	Sig
Regression	34.501	4	8.623	57.23619	.000a
Residual	8.4391	56	.1507		
Total	42.9406	60			

- a. Predictors: (Constant), Teacher-learner activities, Teaching methods, Adequacy of teaching/learning resources and Class number of children
- b. Dependent Variable: children academic performance

The findings of the study indicate that the relationship between the independent variables and the dependent variable was statistically significant ($F=57.23619$; $p < 0.05$). This implies that the multiple regression model was good fit for the data. Hence teacher-learner activities, teaching methods, adequacy of teaching/learning resources and class number of children influence children academic performance therefore they should put emphasis on them.

4.7.2 Regression Coefficients

The study also conducted t-test of statistical significance of each individual regression coefficient. Table 4.32 presents the results.

Table 4.32 Regression Analysis Coefficient

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.489	.246		1.98	.049
Teacher-learner activities	.124	.047	.232	2.65	.010
Teaching methods	.287	.114	.201	2.51	.014
Adequacy of teaching/learning resources	.286	.114	.188	2.52	.014
Class number of children	.252	.118	.201	2.13	.037

Regression of coefficients results in Table 4.32 shows that teacher learner activities has a positive and significant influence on children academic performance ($\beta_1=.124$, $p<0.05$). It was further established that teaching methods has a positive and significant influence on children academic performance ($\beta_2=.287$, $p<0.05$). Adequacy of teaching/learning resources was found to have a positive and significant influence on children academic performance ($\beta_3=.286$, $p<0.05$). Finally, class number of children was found to have a positive and significant influence on children academic performance ($\beta_4=.252$, $p<0.05$).

The optimal model was;

$$Y = 0.489 + 0.124X_1 + 0.286X_2 + 0.287X_3 + 0.252X_4$$

Where:

Y represents children academic performance, dependent variable

X_1 represents teacher-learner activities

X_2 represents teaching methods

X_3 represents adequacy of teaching/learning resources

X_4 represents class number of children

4.8 Hypotheses Testing

From the regression model computed in Table 4.32, the research hypotheses were tested using the significance level of the coefficients. The research aimed to test the hypothesis with an aim of failing to reject or rejecting the relationship between independent and the dependent variables. The research hypothesis for the study included;

H₀₁: There is no statistically significant influence of teacher-learner activities on children academic performance in public ECDE schools in Keiyo North sub-county. The regression results in Table 4.32 indicate that there is significant relationship between teacher-learner activities and children academic performance in public ECDE schools in Keiyo North sub-county with a beta coefficient of 0.124 and significance of ($p= 0.010$). The study rejected the hypothesis.

H₀₂: There is no statistically significant influence of teaching methods on children academic performance in public ECDE schools in Keiyo North sub-county. The regression results in Table 4.32 indicate that there is significant relationship between teaching methods and children academic performance in public ECDE Centres in Keiyo North sub-county with a beta coefficient of 0.287 and significance of ($p= 0.014$). The study rejected the hypothesis.

H₀₃: There is no statistically significant influence of adequacy of teaching/learning materials on children academic performance in public ECDE schools in Keiyo North sub-county. The regression results in Table 4.32 indicate that there is significant relationship between adequacy of teaching/learning resources and children's academic performance in public ECDE Centres in Keiyo North sub-county with a beta coefficient of 0.286 and significance of ($p= 0.014$). The study rejected the hypothesis.

H₀₄: There is no statistically significant influence of class number of children on children's academic performance in public ECDE schools in Keiyo North sub-county. The regression results in Table 4.32 indicate that there is significant relationship between class number of children and children's academic performance in public ECDE schools in Keiyo North sub-county with a beta coefficient of 0.252 and significance of ($p= 0.037$). The study rejected the hypothesis.

Table 4.33 Summary of Hypotheses Test Results

	Hypothesis	Coeff	p-value	Decision
H ₀₁	Hypothesis There is no statistically significant influence of teacher-learner activities on children academic performance in public ECDE schools in Keiyo North sub-county.	.124	.010	Rejected
H ₀₂	Hypothesis There is no statistically significant influence of teaching methods on children academic performance in public ECDE schools in Keiyo North sub-county.	.286	.014	Rejected
H ₀₃	Hypothesis There is no statistically significant influence of adequacy of teaching/learning resources on children academic performance in public ECDE schools in Keiyo North sub-county.	.285	.014	Rejected
H ₀₄	Hypothesis There is no statistically significant influence of class number of children on children academic performance in public ECDE schools in Keiyo North sub-county.	.252	0.037	Rejected

CHAPTER FIVE

DISCUSSIONS, SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions, recommendations, limitations and suggestions for further study.

5.2 Discussions

General findings from the respondents are discussed, followed with findings as per the objectives of the study.

5.2.1 Response Rate

The response rate for this study was 73.5%. This response rate is considered very good to enable the determination of the phenomenon that exist as it was in line with Mugenda and Mugenda (2008) assertion. They state that a response rate of above 70% was recommended for the generalization of the research findings. This is also in line with Cooper and Schindler (2006) arguing that the research whose response rate is above 70% is adequate for a research of a social science nature.

5.2.2 Characteristics of Respondents

The results presented in section 4.3.1 on the demographic information of the respondents, revealed that majority of the respondents 49(80.3%) were female. This implied that majority of the subjects who participate in the study were female compared to their male counterparts and that majority of ECDE teachers are female. Female teachers in ECDE implies that they can handle the pupils through learning process because they are mothers and they know how to handle young children than male teachers leading to

improved academic performance of the learners. The study findings gave confirmation of the educational statistical booklet (2003 – 2001) statistics that the female ECDE teachers have been dominantly female.

The study results in section 4.3.2 showed that majority of the respondents 44(72.1%) were from public centers. This implied that there were more public ECDE schools compared to private centers in Keiyo North. This implied that the due to government support to public ECDE centers there have been development of many centers compared to private. The increased in public ECDE centers have led to increased enrolment of pupils which have influence classroom environment situation in public ECDE schools which influenced negatively children's academic performance in public ECDE centres in Keiyo North Sub-County than private ECDE schools.

The study findings in section 4.3.3 showed that 36(59%) of respondents were aged between 25 and 36 years. The results are an indication that majority of ECDE teachers had a substantial mature age which means they were competent enough as noted by Mutoro (2012) that teachers maturity determines the competence and efficiency hence positively improved the academic performance of the children.

The study results in in section 4.3.4 indicated that 36(59%) have been teaching for 6-10 years. The study finding implies that the respondents have been teaching in various public ECDE schools enough to understand the topic under the study leading to improved academic performance amongst learners. The study findings concurred with Jepketer, Kombo and Kyalo (2015) that most of the school or education strategic plans cover duration of five years hence measuring effectiveness of teachers is possible within this period. The

ECDE teachers role is to provide effective leadership needed to steer the school to greater heights of academic achievement, to ensure the school has necessary teaching and learning resources and that the school environment is conducive for learning.

According to the study findings in section 4.3.5 majority of the respondents 35(57.4%) were employed by board of management. This implies that despite of county government employing ECDE teacher's majority of the teachers are still employed by the board of management. Are Inadequate influencing negatively the academic performance of children in ECDE schools in keiyo North.

The findings in section 4.3.6 showed that 18(29.5%) of the respondents had diploma. This implies that the respondents had sufficient academic qualification to understand the influence of classroom environment on children's academic performance in public ECDE centres in Keiyo North Sub-County. The study results concurred with Ololube (2016) who showed that teachers require professional knowledge and professional teaching skills, as well as a broad base of general knowledge. Teachers should be both academically and professionally trained.

5.2.3 Influence Of Teacher-Learner Activities On Children's Academic Performance

Findings for first objective is as presented in section 4.9.1 on the influence of teacher-learner activities on children academic performance in public ECDE schools in Keiyo North sub-county. The study findings revealed that teacher-learner activities and children academic performance had a positive and statistically significant relationship. These results concur with Mathis (2017) who found a positive relationship between teacher-learner activities and best children academic performance. Pupils perceived

effective teachers as those who applied different approaches to teaching and make learning a reality and enjoyable and what the pupils does is more important than what the teacher does. The findings also agreed with Ohler (2013) who asserts that to achieve better outcomes, learners should engage in different activity areas that include: communication and collaboration, critical thinking and problem solving, imagination and creativity, citizenship, digital literacy and learning to learn self-efficiency. The study also revealed that singing, observation, reciting poems, demonstration, dramatization and reading were the main methods used in Teaching of Kiswahili in class by ECDE teachers. The results agree with Kenya Institute of Curriculum Development (2017) who asserts that learning activities comprise all the engagements the learner goes through during the lesson, which may be carried out by an individual learner or by group work. They are activities that are tailored toward achieving the intended learning outcomes of the lesson.

The study also showed that movement and creative activities used by ECDE teachers included; singing, observation, drawing, coloring, role playing, swimming games, floatation, painting, modeling, weaving and dancing when teaching in class. The finding concurs with Campbell, Mitchell, Kleinig, Dewey, Churilov, Yassi and Wu, (2015) who assert that learning is through discovery by the learner. This works when the teacher exploits the individual child's interests and gifts in order to attain the most for the child. Consequently, it is not possible to rely on one activity since different children have different needs. The need to vary the activities is therefore mandatory.

5.2.4 Influence Of Teaching Methods On Children's Academic Performance

The study results indicated in section 4.10.2 in chapter four indicated a positive and statistically significant relationship between teaching methods, and children academic. Teaching methods had a positive influence on children academic performance. The study findings reveal that teaching methods used by teachers were; storytelling, observations, field trips, singing, dramatization, class experiments, reciting rhymes, audio visuals, reciting poems, open ended questions and resource persons. The results concede with Poulou (2017) who believed teachers to prefer the use of teacher-centred method to the learner-centred method in instruction, the teacher-centred method in most cases is disastrous to the learner if other approaches are left unexplored. The findings also agree with Berry (2010) who further asserts that the Blooms Taxonomy three main categories of learning, that is; cognitive, affective and psychomotor be used as a basis for deciding the mode of instruction a teacher can use. The study results show that sticks, stones, grains, marbles, place value chart, strings, cut outs, number line, bottles, rulers, stones, pieces of wood and containers were available for teaching mathematics and this could enhance academic performance of the pupils. The results concur with Mathew and Alidmat (2013) who in their study found out that resources such as teaching-learning aids, audio-visual aids are used, the learning process is enhanced. The foregoing sources further established that there was marked difference between children who are taught by use of such teaching-learning aids and the ones taught otherwise.

In cognitive domain learning took place using all the methods of teaching, affective domain may be achieved using discussion, case study, role play method while psychomotor learning may be best acquired by active physical participation such as demonstration,

experimentation or project work. The findings finally coincide with Musset and Topping (2017) who asserts that the pupil's confidence drives the learner to carry out learning activities on their own. This implies that the learners have to be helped first to believe that they are well capable of acquiring the disseminated knowledge before they can gain the instruction. This, they can do by trying to discover knowledge through available literature or learning materials.

Through regression results in section 4.11.2 shown that that there is significant relationship between teaching methods and children academic performance in public ECDE Centres in Keiyo North sub-county. These results concured with Made Wena (2011) who found out the relationships of teacher and the pupils, the teaching method or model and the classroom atmosphere greatly affect student's achievement. The appropriate model of teaching and the learning environment will determine the fun and enjoyment of lesson and will indirectly improve or dampen student's achievement.

5.2.5 Influence Of Adequacy Of Teaching/Learning Resources On Children's Academic Performance

On this objective three study findings as presented in section 4.10.3 revealed there exist a positive and statistically relationship between adequacy of teaching resources and children's academic performance. The study results show that sticks, stones, grains, marbles, place value chart, strings, cut outs, number line, bottles, rulers, stones, pieces of wood and containers were available for teaching mathematics and this could enhance academic performance of the pupils. The results concur with Mathew and Alidmat (2013) who in their study found out that resources such as teaching-learning aids, audio-visual aids

are used, the learning process is enhanced. The foregoing sources further established that there was marked difference between children who are taught by use of such teaching-learning aids and the ones taught otherwise. Clay, charts, crayons, plasticines and dolls were available and adequate for teaching CRE however, holy bibles, videos, photographs and hymn books were either unavailable or inadequate. The findings concur with David, (2015) who emphasised on the importance of instructional resources in ECDE centres. They both assert that availability of academic resources such as books, charts, models and play materials influence academic performance of the pre-school children.

Flashcards, word puzzles, crayons, writing slates, newspapers, magazines, audio visuals, picture cards, word cards and word wheels were inadequate for teaching English in ECDE. The findings concur with Odhiambo (2015) who asserts that resources for offering learning stimulate variation to the learner and this enables him to concentrate throughout the whole process in learning. Curriculum implementation cannot be separated from pupil's academic achievement in school. However, sometimes these resources are unavailable due to their cost.

Bean bags, ropes, filed markers, pebbles, paint, brushes, cutting tools, rubber bands, straws, bottles and pencils were adequate and available. However, video clips, digital devices and musical instruments were inadequate and some were unavailable because they are expensive and the school is unable to afford. The finding concur with Metto and Makewa (2014) who show that whenever quality learning resources are used in the process of transmission of knowledge, more than one faculty of human sense is engaged simultaneously. This is in agreement with the findings of the Psychologists that different

human senses account for varying degrees of learning. Estimates has it that the taste sense accounts for 1%, the sense of touch accounts for 1.5%, that of smell accounts for 3.5 whereas the sense of sight accounts for 83%. It is also believed that 20% of what is heard is retained while 50% of what is seen is retained. This convincingly justifies the need to use visual teaching aids in teaching and learning.

Regression coefficients results show that there is significant relationship between adequacy of teaching/learning resources and children's academic performance in public ECDE Centres in Keiyo North sub-county. These results concurred with David, (2015) who found a positive influence between availability of academic resources such as books, charts, models and play materials and academic performance of the pre-school children.

5.2.6 Influence Of Class Size On Children's Academic Performance

On this objective four study findings as presented in section 4.10.4 revealed there exist a positive and statistically relationship between adequacy of teaching resources and children's academic performance. The overcrowding in the classroom can influence the learning space hence affecting academic performance of the learners. One teacher is handling a whole class hence teacher to learners ratio is high hence influencing academic performance of the learners negatively. The study findings reveal that high number of pupils in a class make one lose attention. It also makes distribution resources difficult and makes one not able to assess all the pupils in all activity areas. The study results concur with Hollie (2017) who suggested that class size affected the amount of individual attention, the immediacy and responsiveness of teachers to children, the sustained and purposeful nature of interaction between teachers and children, the depth of a teachers'

knowledge of children in their classes, and sensitivity to individual children's particular needs. The findings also concur with Danielewicz (2014) who proposed that in smaller classes there was more likelihood of what is called teacher support for learning. It might be argued that one solution to the teacher's difficulties in contacting children in large classes would be to alter their approach, so that there is more teaching to larger groups or to the whole class. However, there was no evidence that teaching to the whole class increased in larger classes, and this ran contrary to expectation. However, this result might have owed much to teachers of such young children feeling uncomfortable about increasing the amount of whole class teaching.

The regression results indicated that there is significant relationship between class number of children and children's academic performance in public ECDE schools in Keiyo North sub-county. These results concur with Hollie (2017) who found out that class number of children positively influence the amount of individual attention, the immediacy and responsiveness of teachers to children, the sustained and purposeful nature of interaction between teachers and children, the depth of a teachers' knowledge of children in their classes, and sensitivity to individual children's particular needs.

5.3 Summary of the Findings

The summary of findings focuses on the following sub-headings that formed the study objectives:

5.3.1 Influence of Teacher-learner Activities on Children's academic Performance

The first objective of the study was to establish the influence of teacher-learner activities on children performance in public ECDE schools in Keiyo North sub-county. The

findings showed that ECDE teachers use observation, counting, drawing, numbering and measuring when teaching mathematics in class. Also, they use coloring, reciting poem/verses, singing, reading, observation and role playing when teaching Christian religious education. Further, singing, observation, reciting poems, demonstration, dramatization and reading were the main methods used in Teaching of Kiswahili and English in class by ECDE teachers. Finally, singing, observation, drawing, coloring, role playing, swimming games, floatation, painting, modeling, weaving and dancing when teaching in class. This promotes acquisition of new skills which motivates learner hence improved academic performance of the learners.

5.3.2 Influence of Teaching Method on Children's academic Performance

The second objective of this study was to examine influence of teaching method on children performance in public ECDE schools in Keiyo North sub-county. The results indicate that that teaching methods used by teachers were; storytelling, observations, field trips, singing, dramatization, class experiments, reciting rhymes, audio visuals, reciting poems, open ended questions and resource persons. This enhanced curiosity and promoted knowledge retention leading to improved academic performance amongst pupils.

5.3.3 Influence of Adequacy of Teaching/Learning Resources on Children's academic Performance

The third objective of the study was to determine the influence of adequacy of teaching/learning resources on children performance in public ECDE schools in Keiyo North sub-county. The findings indicate that sticks, stones, grains, marbles, place value chart, strings, cut outs, number line, bottles, rulers, stones, pieces of wood and containers were available for teaching mathematics. Also, clay, charts, crayons, Plasticines and dolls

were available and adequate for teaching CRE however, holy bibles, videos, photographs and hymn books were either unavailable or inadequate. Further, flashcards, word puzzles, crayons, writing slates, newspapers, magazines, audio visuals, picture cards, word cards and word wheels were inadequate for teaching Kiswahili and English in ECDE. Finally, bean bags, ropes, filed markers, pebbles, paint, brushes, cutting tools, rubber bands, straws, bottles and pencils were adequate and available. However, video clips, digital devices and musical instruments were inadequate and some were unavailable because they were expensive and the school is unable to afford. Therefore knowledge retention by the pupils was reduced and curiosity amongst learners leading to poor learning and low acquisition of skill lowering the academic performance.

5.3.4 Influence of Class Size on Children's academic Performance

The study also sought to determine the influence of class size on children's performance in public ECDE schools in Keiyo North sub-county. The study findings indicated that majority of classes more than 30 pupils. Also, majority of the respondents indicated that they had one teacher. Finally, the findings reveal that high number of pupils in a class makes one lose attentions. It also makes distribution resources difficult and makes one not able to assess all the pupils in all activity's areas. Therefore academic performance is higher for smaller number of pupils in a class than for large number of pupils or crowded classrooms.

5.4 Conclusions

The study concluded that ECDE teachers use observation, counting, drawing, numbering and measuring when teaching mathematics in class. Also, they use coloring, reciting poem/verses, singing, reading, observation and role playing when teaching Christian religious education. Further, singing, observation, reciting poems, demonstration, dramatization and reading were the main methods used in Teaching of Kiswahili and English in class by ECDE teachers. Finally, singing, observation, drawing, coloring, role playing, swimming games, floatation, painting, modeling, weaving and dancing when teaching in class.

The study also concluded that methods used by teachers were; storytelling, observations, field trips, singing, dramatization, class experiments, reciting rhymes, audio visuals, reciting poems, open ended questions and resource persons, hence all this greatly improved academic performance of learners.

The study further concluded that sticks, stones, grains, marbles, place value chart, strings, cut outs, number line, bottles, rulers, stones, pieces of wood and containers were available for teaching mathematics. Also, clay, charts, crayons, Plasticine and dolls were available and adequate for teaching CRE however, holy bibles, videos, photographs and hymn books were either unavailable or inadequate. Further, flashcards, word puzzles, crayons, writing slates, newspapers, magazines, audio visuals, picture cards, word cards and word wheels were inadequate for teaching Kiswahili and English in ECDE. Finally, bean bags, ropes, filed markers, pebbles, paint, brushes, cutting tools, rubber bands, straws, bottles and pencils were adequate and available. However, video clips, digital devices and

musical instruments were inadequate and some were unavailable because they are expensive and the school is unable to afford them. Leading to low academic performance.

The study finally concluded that high number of pupils in a class makes one lose attentions. It also makes distribution resources difficult and makes one not able to assess all the pupils in all activity's areas, lowering the children's academic performance.

5.5 Recommendations

The study recommends the following;

- i) The ECDE teacher should be conversant with the content to be delivered and select the best meaningful and useful activities to communicate the content to the pupils effectively hence improve academic performance.
- ii) The ECDE teachers should appropriately choose a model or improve methods of teaching and the learning environment which will determine the fun, enjoyment and enhance curiosity of learners during a it lesson and will indirectly improve children's academic performance.
- iii) The school and the ministry of education should ensure learning resources are adequate and available this will make learning more interesting when pupils play with objects as well as watching others play with the same leading to high academic performance amongst pupils.
- iv) The school should ensure that there's a great infrastructure or standardized classrooms which are spacious and enough for learners to avoid overcrowding in classes and enough teachers in order for them to register better academic performance.

5.6 Suggestions for Further Research

The current research was conducted in Keiyo North Sub-county and therefore the following have been suggested for further research;

- i. A similar study can be done in the entire county, the findings of such a study would create an opportunity for teachers to improve the teaching and learning methods in schools hence improve the academic performance of the children.
- ii. A similar study can be done involving both private and public ECDE schools, this will thus lead to improved academic performance in Keiyo North sub county and the entire county.
- iii. A similar study can be carried out in other counties so as to facilitate funding from Non governmental organisations, donors and well wishers leading to improved classroom environment conducive for learning hence improve academic performance in ECDE schools.

REFERENCES

- Andresen, S., Fegter, S., Hurrelmann, K., & Schneekloth, U. (Eds.). (2017). *Well-being, poverty and justice from a child's perspective: 3rd World Vision Children Study* (Vol. 17). Springer.
- Angrist, J. D., Battistin, E., & Vuri, D. (2017). In a small moment: Class size and moral hazard in the Italian Mezzogiorno. *American Economic Journal: Applied Economics*, 9(4), 216-49.
- Angrist, J. D., Battistin, E., & Vuri, D. (2017). In a small moment: Class size and moral hazard in the Italian Mezzogiorno. *American Economic Journal: Applied Economics*, 9(4), 216-49.
- Ashraf, Q. H., Weil, D. N., & Wilde, J. (2013). The effect of fertility reduction on economic growth. *Population and development review*, 39(1), 97-130.
- Bahanshal, D. A. (2013). The Effect of Large Classes on English Teaching and Learning in Saudi Secondary Schools. *English Language Teaching*, 6(11), 49-59.
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *Nursing Plus Open*, 2, 8-14.
- Best, J. W., & Kahn, J. V. (2016). *Research in education*. Pearson Education India.
- Biesta, G. J. (2015). Good education in an age of measurement: Ethics, politics, democracy. Routledge.
- Bornstein, M. H., & Bradley, R. H. (2014). *Socioeconomic status, parenting, and child development*. Routledge.
- Brace, I. (2018). *Questionnaire design: How to plan, structure and write survey material for effective market research*. Kogan Page Publishers.
- Brace, I. (2018). *Questionnaire design: How to plan, structure and write survey material for effective market research*. Kogan Page Publishers.
- Brown, C. P., McMullen, M. B., & File, N. (Eds.). (2019). *The Wiley Handbook of Early Childhood Care and Education*. John Wiley & Sons.
- Campbell, B. C., Mitchell, P. J., Kleinig, T. J., Dewey, H. M., Churilov, L., Yassi, N., ... & Wu, T. Y. (2015). Endovascular therapy for ischemic stroke with perfusion-imaging selection. *New England Journal of Medicine*, 372(11), 1009-1018.
- Centre for Innovation in Research and Teaching CIRT (2010), Grand Canyon University: Phoenix

- Chang, M. M. (2013). Effects of self-monitoring on web-based language learner's performance and motivation. *Calico Journal*, 27(2), 298-310.
- Chen, J. (2016). Understanding teacher emotions: The development of a teacher emotion inventory. *Teaching and Teacher Education*, 55, 68-77.
- Chuma, P. C. (2012). *Challenges Affecting Teaching-Learning in Primary Schools in Kenya. A case study of Central Division Mandera East District*. Executive Med Project, Moi University.
- Danielewicz, J. (2014). *Teaching selves: Identity, pedagogy, and teacher education*. Suny Press.
- David, M. W. (2015). Impact of instructional materials on early childhood Development and education in Kiine Zone Ndia Division of Kirinyaga West District, Kirinyaga County.
- Ferguson, K. T., Cassells, R. C., MacAllister, J. W., & Evans, G. W. (2013). The physical environment and child development: An international review. *International Journal of Psychology*, 48(4), 437-468.
- Gibbs, G., & Jenkins, A. (2014). *Teaching large classes in higher education: How to maintain quality with reduced resources*. Routledge.
- Gordon, N. D. (2016). Combinations of receipt of South Africa's three primary government-provided services and children's academic and cognitive development (Doctoral dissertation, New York University).
- Hanratty, L. A., Miltenberger, R. G., & Florentino, S. R. (2016). Evaluating the effectiveness of a teaching package utilizing behavioral skills training and in situ training to teach gun safety skills in a preschool classroom. *Journal of Behavioral Education*, 25(3), 310-323.
- Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80, 152-161.
- Harfitt, G. J., & Tsui, A. B. (2015). An examination of class number of children reduction on teaching and learning processes: A theoretical perspective. *British Educational Research Journal*, 41(5), 845-865.
- Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-based nursing*, 18(3), 66-67.
- Hollie, S. (2017). *Culturally and linguistically responsive teaching and learning: Classroom practices for student success*. Teacher Created Materials.

- Hong, K., & Zimmer, R. (2016). Does investing in school capital infrastructure improve student achievement? *Economics of Education Review*, 53, 143-158.
- Horton-Deutsch, S., & Sherwood, G. D. (2017). *Reflective practice: Transforming education and improving outcomes* (Vol. 2). Sigma Theta Tau.
- Illeris, K. (Ed.). (2018). *Contemporary theories of learning: learning theorists... in their own words*. Routledge.
- Ismaila, S. O., Akanbi, O. G., & Olaoniye, W. (2015). Model for predicting peak expiratory flow rate of Nigerian workers in a cement factory in Itori, Ogun State, Nigeria. *International Journal of Occupational Safety and Ergonomics*, 21(4), 547-550.
- Ismaila, S. O., Akanbi, O. G., & Oderinu, S. O. (2015). Anthropometric survey and appraisal of furniture for Nigerian primary school pupils.
- Karanja, V. W. (2017). Relationship between play implementation practices and ECDE learner performance in Kangari Zone, Kigumo Sub-County, Murang'a County in Kenya (Unpublished M. Ed Thesis). Nairobi: Africa Nazarene University.
- Kenya Institute of Curriculum Development (2017). *Early Years Education Design*. Nairobi: KICD
- Kilei, J. K. (2012). Factors influencing quality training in public primary TTC in Rift Valley Zone, Kenya. (Executive Med project, Moi University).
- King'oina, J. O., Kadenyi, M. M., & Mobegi, F. O. (2017). School Climate as a Determinant of Pupils' Academic Performance in Public Primary Schools in Marani Sub-County, Kenya.
- Kiptum, J. K. (2018). *Influence of school physical environment on teachers' satisfaction in selected public primary schools in Elgeyo Marakwet County, Kenya* (Doctoral dissertation, Kenyatta University).
- Langat, S. (2016). Schooling is not Learning: A Case Study of Kenya's Primary Education. *Economics Student Theses and Capstone Projects*. 23.
- Leyva, D., Weiland, C., Barata, M., Yoshikawa, H., Snow, C., Treviño, E., & Rolla, A. (2015). Teacher-child interactions in Chile and their associations with prekindergarten outcomes. *Child development*, 86(3), 781-799.
- Loewen, J. W. (2018). *Teaching what really happened: How to avoid the tyranny of textbooks and get students excited about doing history*. Teachers College Press.
- Marylin, K. S., & Goes, J. (2013). Dissertation and scholarly research: Recipes for success.

- Mathew, N. G., & Alidmat, A. O. H. (2013). A Study on the Usefulness of Audio-Visual Aids in EFL Classroom: Implications for Effective Instruction. *International Journal of Higher Education*, 2(2), 86-92.
- Mathis, W. J. (2017). The effectiveness of class number of children reduction. *Psychosociological Issues in Human Resource Management*, 5(1), 176-183.
- Maxwell, L. E. (2016). School building condition, social climate, student attendance and academic achievement: A mediation model. *Journal of Environmental Psychology*, 46, 206-216.
- Mbiti, M.D. (2013). *Foundations of school administration*. Nairobi: Oxford University Press.
- McAllister, K., & Sloan, S. (2016). Designed by the pupils, for the pupils: an autism-friendly school. *British Journal of Special Education*, 43(4), 330-357.
- Metto, E., & Makewa, L. N. (2014). Learner-centered teaching: Can it work in Kenyan public primary schools. *American Journal of Educational Research*, 2(11A), 23-29.
- MOEST (2000). SACMEQ II South Africa consortium for monitoring education quality Nairobi: Government Printers
- MOEST (2003). Sessional paper No 1: Policy frame work of education training and research. Nairobi: Government Printers
- MOEST (2010). Sectional Paper No 1 2005 Policy framework for education training and research. Meeting the challenges of education training and research in Kenya In The 21st Century, Nairobi.
- MOEST (2013). *Basic education Act* Nairobi: Government Printers
- Mpatwenumugabo, J. P., Bebora, L. C., Gitao, G. C., Mobegi, V. A., Iraguha, B., Kamana, O., & Shumbusho, B. (2017). Prevalence of subclinical mastitis and distribution of pathogens in dairy farms of Rubavu and Nyabihu districts, Rwanda. *Journal of veterinary medicine*, 2017.
- Mulima, K. J. (2017). *Trade Union Activities On Improvement Of Teachers Welfare* (Doctoral dissertation, University of Nairobi).
- Murphy, P., & Wolfenden, F. (2013). Developing a pedagogy of mutuality in a capability approach: Teachers' experiences of using the Open Educational Resources (OER)

- of the teacher education in sub-Saharan Africa (TESSA) programme. *International Journal of Educational Development*, 33(3), 263-271.
- Murphy, P., & Wolfenden, F. (2013). Developing a pedagogy of mutuality in a capability approach: Teachers' experiences of using the Open Educational Resources (OER) of the teacher education in sub-Saharan Africa (TESSA) programme. *International Journal of Educational Development*, 33(3), 263-271.
- Musembi, P. M. (2016). *The influence of KEMI education management training Course on management practices of public secondary schools in Matungulu Sub County* (Doctoral dissertation).
- Musset, M., & Topping, K. (2017). Video interaction guidance in collaborative group work: impact on primary school pupils' self-esteem and behaviours. *Educational Psychology*, 37(9), 1067-1081.
- Niemi, R., Kumpulainen, K., & Lipponen, L. (2015). Pupils as active participants: Diamond ranking as a tool to investigate pupils' experiences of classroom practices. *European Educational Research Journal*, 14(2), 138-150.
- Noddings, N. (2018). *Philosophy of education*. Abingdon, United Kingdom, Routledge.
- Novak, E., Johnson, T. E., Tenenbaum, G., & Shute, V. J. (2016). Effects of an instructional gaming characteristic on learning effectiveness, efficiency, and engagement: using a storyline for teaching basic statistical skills. *Interactive Learning Environments*, 24(3), 523-538.
- Nyakeoga, M. D. (2018). *Role Of School Language Policies In Enhancing Teaching And Learning Of Kiswahili In Wajir East Sub-County, Wajir County-Kenya* (Doctoral dissertation, MOI UNIVERSITY).
- Odhiambo, N. M. (2015). Government expenditure and economic growth in South Africa: An empirical investigation. *Atlantic Economic Journal*, 43(3), 393-406.
- Ogero, A. K. (2015). School based factors influencing performance of children with disabilities in public primary schools in Kajiado north district, Kajiado county, Kenya (Doctoral dissertation, University of Nairobi).
- Olayinka, A. R. B. (2016). Effects of Instructional Materials on Secondary Schools Students' Academic Achievement in Social Studies in Ekiti State, Nigeria. *World Journal of Education*, 6(1), 32-39.
- O'Reilly, C. (Ed.). (2017). *Colonial Policing and the Transnational Legacy: The Global Dynamics of Policing Across the Lusophone Community*. Routledge.
- Ozga, J. T., & Lawn, M. A. (2017). Teachers, professionalism and class: A study of organized teachers. Routledge.

- Pedhazur, E. J., & Schmelkin, L. P. (2013). *Measurement, design, and analysis: An integrated approach*. Psychology Press.
- Perrott, E. (2014). *Effective teaching: A practical guide to improving your teaching*. Routledge.
- Pierce, R., Chick, H., & Wander, R. (2014). Improving teachers' professional statistical literacy. In *Topics from Australian conferences on teaching statistics* (pp. 295-309). Springer, New York, NY.
- Poulou, M. S. (2017). Social and emotional learning and teacher–student relationships: Preschool teachers' and students' perceptions. *Early Childhood Education Journal*, 45(3), 427-435.
- Read, T. (2015). *Where have all the textbooks gone? Toward sustainable provision of teaching and learning materials in Sub-Saharan Africa*. The World Bank.
- Republic of Kenya (2001a). *Report of the Task Force on Student Discipline and Unrest in Secondary Schools*. Nairobi: MOEST
- Republic of Kenya (2001b). *The Children's Act*. Nairobi: Government Printer.
- Republic of Kenya (2007). *Kenya Vision 2030*, Nairobi: Government Printers.
- Republic of Kenya (2013). *The Basic Education Act 2013*. Nairobi: Government Printer
- Republic of Kenya. (2010). *The Constitution of Kenya, 2010*. Nairobi: The Attorney General
- Richey, R. C., & Klein, J. D. (2014). *Design and development research: Methods, strategies, and issues*. Routledge.
- Samanta, S., Basu, S. S., Haldar, D., Sarkar, A. P., Saren, A. B., & Sarkar, G. N. (2017). Status of early childhood education under integrated child development services scheme in Bankura municipality, West Bengal. *Indian journal of public health*, 61(4), 261.
- Sang, C. J. (2013). *Effect of Classroom Environment on Academic Performance in Mathematics of Preschool Children in Pioneer Zone, Uasin Gishu County, Kenya* (Doctoral dissertation, Department of Educational Communication and Technology, University of Nairobi).
- Sharp, R., Green, A., & Lewis, J. (2017). *Education and social control: A study in progressive primary education*. Routledge.
- Sharplin, E. D. (2014). Reconceptualising out-of-field teaching: Experiences of rural teachers in Western Australia. *Educational Research*, 56(1), 97-110.

- Shongwe, B. (2014). *Understanding teacher communication patterns: case studies of talk in new teachers' science classrooms* (Doctoral dissertation).
- Simon, M. K., & Goes, J. (2013). Assumptions, limitations, delimitations, and scope of the study. Retrieved from *dissertationrecipes.com*.
- Spradley, J. (2016). P. 1980. Participant observation. *Wadsworth, Belmont, USA*.
- Spradley, J. P. (2016). *Participant observation*. Waveland Press.
- Steve Grubaugh and Richard Houston, "Establishing a school environment that promote interaction and improved student behaviour," *The clearing House*, Vol. 63, No. 8 (Apr, 2013). Pp. 375-378.
- Subedi, B. P. (2016). Using likert type data in social science research: confusion, issues and challenges. *International journal of contemporary applied sciences*, 3(2), 36-49.
- Suleman, Q., & Hussain, I. (2014). Effects of classroom physical environment on the academic achievement scores of secondary school students in kohat division, Pakistan. *International Journal of Learning & Development*, 4(1), 71-82.
- Takahashi, Y., & Uda, K. (2013, October). Project based learning using natural energy powered small electric vehicle for sustainable technology education. In *2013 13th International Conference on Control, Automation and Systems (ICCAS 2013)* (pp. 788-793). IEEE.
- Todd, R. J., & Kuhlthau, C. C. (2016). Student learning through Ohio school libraries, Part 2: Faculty perceptions of effective school libraries. *Librarians and educators collaborating for success: The international perspective*, 46.
- Toroitich, B. K. (2015). *Factors influencing the provision of instructional materials in early childhood development and Education Centres in Keiyo North Sub County* (Doctoral dissertation, Moi university).
- UNICEF (2003) "UNICEF gloomy on child development goals." *Lancet* 362 (9400).
- Van Lancker, W. (2013). Putting the child-centred investment strategy to the test: evidence for the EU27. *European Journal of Social Security*, 15(1), 4-27.
- William, D., & Thompson, M. (2017). Integrating assessment with learning: What will it take to make it work. In *The future of assessment* (pp. 53-82). Routledge.

- Wilson, S. N., Engler, C. E., Black, J. E., Yager-Elorriaga, D. K., Thompson, W. M., McConnell, A., ... & Terry, R. A. (2017). Game-based learning and information literacy: A randomized controlled trial to determine the efficacy of two information literacy learning experiences. *International Journal of Game-Based Learning (IJGBL)*, 7(4), 1-21.
- Zohrabi, M. (2013). Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings. *Theory & practice in language studies*, 3(2).

APPENDICES

APPENDIX I: COVER LETTER

Dear Teacher;

The survey study is being conducted by Mrs. Joyce Jepkemoi Chesire a Master's Degree student at Africa Nazarene University. The purpose of this survey is to find out your opinion on the Influence of Classroom environment on Children's academic performance in public ECDE schools in Keiyo North Sub-county. This is not an examination and therefore there are no wrong or correct answers. Your response helped in the management and improvement of ECDE programs in Kenya. This survey questionnaire did not take long to complete. Participation in this study is voluntary so please feel confident when answering the questions because you are not required to write your name in the papers thus there were no any attempt to identify you in the results and group scores were used to report the results. Please sign these forms and retain a copy if you choose to participate. You may then proceed to respond to the question as truthfully and completely as you can.

Yours Faithfully,

Joyce Jepkemoi Chesire

I have read and am well informed about this study and my participation. I therefore willingly consent to respond to the survey

Yours.....

Signature.....

APPENDIX II: QUESTIONNAIRE FOR ECDE TEACHERS

The purpose of this questionnaire is to gather information about the influence of the classroom environment on children's academic performance in your school. It's my humble request that you respond to the questions as truthfully as possible. All the information you give were accorded great confidentiality. Please do not write your name anywhere in this questionnaire.

SECTION A: General information

1. Gender? Male [] Female []

2. Type of ECDE centre Public [] private []

3. What is your age bracket:
 - 25 years and below [] 25 -35 years []
 - 36-44years [] 45 years and above []

4. Please indicate your teaching experience:
 - 5 years and below [] 6-10 years [] 11-15 years [] 15 years and above []

5. Name of your employer
 - Board of Management []
 - County government []

6. What is your professional qualification
 - Certificate []
 - Diploma []
 - Bachelors []
 - Masters []
 - Others, specify []

SECTION B: Influence of Class Activities Teaching Learning on Teaching/Learning

Rate the following activities according to how frequently you use them in teaching your class.

1. Mathematics

Activities	Very frequently	Frequently	Rarely	Never
I use observation when teaching in class				
I use counting when teaching in class				
I use drawing when teaching in class				
I use numbering when teaching in class				
I use measuring when teaching in class				

2. Christian Religious Education

	Very frequently	Frequently	Rarely	Never
I use colouring when teaching in class				
I use reciting poems/verses when teaching in class				
I use singing when teaching in class				
I use reading when teaching in class				

I use observation when teaching in class				
I use role playing when teaching in class				

3. Kiswahili literacy and indigenous languages

Activities	Very frequently	Frequently	Rarely	Never
I use singing when teaching in class				
I use observation when teaching in class				
I use role playing when teaching in class				
I use demonstration when teaching in class				
I use dramatization when teaching in class				
I use reading when teaching in class				
I use Reciting when teaching in class				
I use drawing when teaching in class	+			
I use colouring when teaching in class				

v) English

SECTION C: Use of Teaching Methods

Rate the following teaching methods according to how frequently you use them to teach your class.

Teaching methods	Very frequently	Frequently	Rarely	Never
I use story telling when teaching in class				
I use observation when teaching in class				
I use field trips when teaching in class				
I use singing when teaching in class				
I use dramatization when teaching in class				
I use class experiments when teaching in class				
I use reciting rhymes when teaching in class				
I use audio visual presentation when teaching in class				
I use reciting poems when teaching in class				
I use of open-ended questions when teaching in class				
I use of resource persons when teaching in class				

SECTION D: Availability and Adequacy of Teaching/Learning Resources

The following are resources for instruction in ECDE. Tick appropriately in the following table to show their availability.

1. Mathematics

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Sticks				
Stones				
Grains				
Marbles				
Place value chart				
Strings				
Cut outs				
Number line				
Bottles				
Rulers				
Stones				
Pieces of woods				
Containers				

2. Christian religious education

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Clay				
Holy Bible				
Bible story books				
Flash cards				
Pictures				
Videos				
Charts				
Photographs				
Hymn books				
Crayons				
Plasticine				
Dolls				
Picture cards				

3. Kiswahili literacy and indigenous languages

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Flash cards				
Word puzzles				
Crayons				
Writing slates				
Newspaper				
Magazines				
Audio visuals				
Picture cards				
Charts				
Word cards				
Word wheels				

4. English

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Flash cards				
Word puzzles				
Crayons				
Writing slates				
Newspaper				
Magazines				
Audio visuals				
Picture cards				
Charts				
Word cards				
Word wheels				

5. Movement and creative activities

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Bean bags				
Ropes				
Field markers				
Video clips				
Pebbles				
Digital devices				
Paint				
Brushes				
Painted fabrics				
Cutting tools				
Rubber bands				
Straws				
Bottle tops				
Pencils				
Musical instruments				

SECTION E: Influence of Class number of children

a) How many pupils are there in your class?

i) 0 – 10 []

ii) 11 - 20 []

iii) 21 – 30 []

iv) More than 30 pupils []

b) How many teachers attend to the class declared in a) above?

i) One teacher []

ii) Two teachers []

iii) More than two teachers []

Statements	SD	D	A	SA
I am not able to give individual attentions due to large number of pupils				
I am not able to distribute materials for learner due to large number of pupils				
I am not able to gather for individual differences due to large number of pupils				
I am not able to assess all the pupils in all activity's areas due to large number of pupils				

SECTION E: Children's academic performance

Statements	SD	D	A	SA
Classroom environment has improved mathematics performance				
Classroom environment has improved language performance				
Classroom environment has improved environmental performance				
Classroom environment has improved hygiene and nutrition performance				
Classroom environment has improved movement and creative performance				
Classroom environment has improved religious performance				

APPENDIX III: LESSON OBSERVATION SCHEDULE

CLASS _____

TIME _____

DATE _____

- i) Teaching and learning activities used in the lesson

- ii) Teaching methods used in the lesson

- iii) Teaching/learning resources available in the class and their adequacy

- iv) Number of pupils and teachers involved in the lesson

**APPENDIX IV: OBSERVATION CHECKLIST ON AVAILABILITY AND
ADEQUACY OF TEACHING/LEARNING RESOURCES**

1. Name of the School: _____
2. School Enrolment: _____
3. Classroom Environment _____

1. Mathematics

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Sticks				
Stones				
Grains				
Marbles				
Place value chart				
Strings				
Cut outs				
Number line				
Bottles				
Rulers				
Stones				
Pieces of woods				
Containers				

2. Christian religious education

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Clay				
Holy Bible				
Bible story books				
Flash cards				
Pictures				
Videos				
Charts				
Photographs				
Hymn books				
Crayons				

Plasticine				
Dolls				
Picture cards				

3. Kiswahili literacy and indigenous languages

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Flash cards				
Word puzzles				
Crayons				
Writing slates				
Newspaper				
Magazines				
Audio visuals				
Picture cards				
Charts				
Word cards				
Word wheels				

4. English

Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Flash cards				
Word puzzles				
Crayons				
Writing slates				
Newspaper				
Magazines				
Audio visuals				
Picture cards				
Charts				
Word cards				
Word wheels				

5. Movement and creative activities

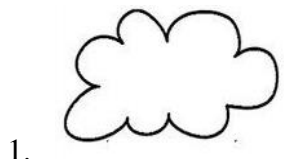
Resources	Available and adequate	Available but inadequate	Not available	Available but in poor conditions
Bean bags				
Ropes				
Field markers				
Video clips				
Pebbles				
Digital devices				
Paint				
Brushes				
Painted fabrics				
Cutting tools				
Rubber bands				
Straws				
Bottle tops				
Pencils				
Musical instruments				

I thank you all so much for accepting to participate in this survey research. Take time again just to be sure that you have put a mark for each question.

APPENDIX V: PRESCHOOL LEARNER'S ASSESSMENT TEST

SCIENCE ACTIVITY

Name the weather symbols



.....
.....



.....
.....



.....

Read and colour home utensils



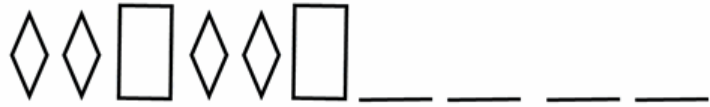





Plate



CREATIVE ACTIVITY

Complete the following patterns

1.  _____
2.  _____
3.  _____
4.  _____
5.  _____
6.  _____

NUMBERWORK ACTIVITY

Work out the following

1) $2 + 3 =$

5) $2 + 4 =$

9. $8 - 3 =$

2) $5 + 1 =$

6) $7 + 3 =$

10. $8 - 4 =$

3) $1 + 5 =$

7) $3 + 6 =$

11. $8 - 5 =$

4) $4 + 4 =$

8) $6 + 4 =$

12. $8 - 6 =$

Count and write how many



Join the dots of numbers



LANGUAGE ACTIVITY

Read and colour the following



house

1.



tree

2.



cat

3.



ball

4.



mouse

5.



hat

6.



sun

7.



apple

8.

Fill the missing letters



_pple

9.



_ish

10.



_og

11.

12.



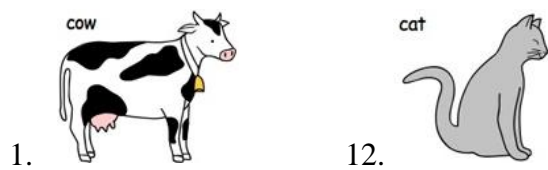
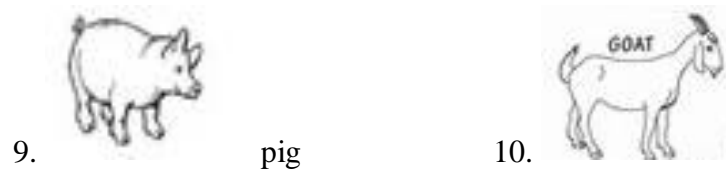
_all

SOCIAL ENVIRONMENTAL ACTIVITY

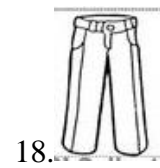
Colour the following fruits



Read and colour the following domestic animals



Colour the clothes we wear



**APPENDIX VI: INTRODUCTION LETTER FROM AFRICA NAZARENE
UNIVERSITY**

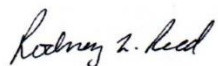


8th July 2020

RE: TO WHOM IT MAY CONCERN

Chesire Joyce Jepkemoi (16S01CMED015) is a bonafide student at Africa Nazarene University. She has finished her course work and has defended her thesis proposal entitled: - *“Influence of classroom environment on children academic performance in public ECDE schools in Keiyo North Sub-County, Elgeyo Marakwet County, Kenya.”*

Any assistance accorded to her to facilitate data collection and finish her thesis is highly welcomed.



Rodney Reed, PhD.
DVC Academic & Student Affairs.

APPENDIX VII: RESEARCH PERMIT FROM NACOSTI

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 178549	Date of Issue: 30 July 2020
RESEARCH LICENSE	
<p>This is to Certify that Miss. JOYCE JEPKEMOI Chesire of Africa Nazarene University, has been licensed to conduct research in Elgeyo-Marakwet on the topic: INFLUENCE OF CLASSROOM ENVIRONMENT ON CHILDREN ACADEMIC PERFORMANCE IN PUBLIC ECDE SCHOOLS IN KEIYO NORTH SUB-COUNTY, ELGEYO MARAKWET COUNTY, KENYA. for the period ending : 30/July/2021.</p>	
License No: NACOSTI/P/20/5934	
178549 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
<p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p>	

APPENDIX VIII: LETTER FROM COUNTY DIRECTOR OF EDUCATION**TEACHERS SERVICE COMMISSION**

Telephone: 0208003909
 Email: tscunitkeiyonorth@gmail.com
 Web: www.tsc.go.ke



KEIYO NORTH SUB COUNTY
 P.O. BOX 384 - 30700,
 ITEN, KENYA

When replying please quote

Ref. No :TSC/452359/48

19/9/2019

TO WHOM IT MAY CONCERN

RE: PERMISSION TO COLLECT DATA IN KEIYO NORTH SUB-COUNTY

The above subject matter refers:-

Joyce Jepkemoi Chesire is a teacher at Mindilwo Primary school in Keiyo North Sub-County doing Masters at Africa Nazarene University has been granted permission to collect data in ECDE Schools in Sub-county for research.

Kindly accord her the necessary assistance.


Tuwey W. (Mr)
SUB COUNTY HUMAN RESOURCE OFFICER
KEIYO NORTH

Cc

THE SECRETARY
TEACHERS SERVICE COMMISSION
PRIVATE BAG
NAIROBI.

HEADTEACHER
MINDILWO PRIMARY SCHOOL

TEACHERS SERVICE COMMISSION KENYA IS ISO 9001:2008 CERTIFIED



APPENDIX IX: MAP OF THE STUDY AREA: KEIYO NORTH SUB-COUNTY

IEBC REVISED KEIYO NORTH CONSTITUENCY COUNTY ASSEMBLY WARDS

