

**TEACHER/LEARNER RATIO ON EFFECTIVE CURRICULUM IMPLEMENTATION IN PUBLIC EARLY CHILDHOOD DEVELOPMENT AND EDUCATION CENTRES IN MUHORONI SUB-COUNTY, KENYA****Celestine Mary Atieno***

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DOI: 10.5281/zenodo.569376**Abstract**

Early Childhood Development and Education (ECDE) programme for years has not been part of the mainstream education services, with the programme provision left to various stakeholders in a totally uncoordinated manner. However, in the recent past, the government through the Ministry of Education has introduced an ECDE curriculum and is making an effort to see that it is fully implemented. The objective of the study was to determine how teacher/learner ratio affects curriculum implementation in public ECDE centres in Muhoroni Sub-County. The study adopted descriptive survey design. Questionnaires and Observation Checklists were used to collect data. The researcher used descriptive methods to analyse data. Sample for the study was 30 ECDE centres which included 30 head teachers of the primary schools in which the ECDE centres were attached and all the ECDE teachers in the sampled centres. Cluster sampling and simple random sampling techniques were used for the study. Data analysis was undertaken primarily in terms of percentages and, to a lesser extent, through descriptive analysis. Based on research findings, the study concluded that there were low teacher learner ratios. Finally, the study recommended that more ECDE teachers be employed to meet the needs of rising enrolment in public ECDE centres.

Introduction

The demand and increased interest in Early Childhood Development and Education (ECDE) programmes has increased considerably as a result of changing socio-economic conditions and changing family structures all over the world. Njagi (2009) posits that, ECDE is an 'umbrella term' or 'a general classification' that refers to the process by which children, from birth until they turn eight years old, grow and flourish socially, physically, mentally, emotionally, spiritually and morally.

Holistic Early Childhood Development (ECD) is the foundation of a good education, and a healthy social development. A strong ECD program is the cornerstone of communities and education programs. The early years of a child's life are spent in the creation of a child's 'sense of self' or the building of a first identity. This is a crucial part of children's make-up: how they first see themselves, how they think they should function, and how they expect others to function in relation to them. (Global Family Village, 2014).

It continues to acknowledge that a vast body of research has demonstrated that ECD programs if effectively implemented benefit children, families, and communities. The reduced drop-out and repetition rates, improved school achievements, greater adult productivity and higher levels of social and emotional functioning encouraged by ECD programs, make them a highly cost-effective means of strengthening society as a whole by ensuring that its individual members live up to their full potentials.

In curriculum development, the logical process to undertake after the try out is the implementation of the curriculum. At this stage, the new curriculum and curriculum materials, including teaching and learning aids, are made available to all schools and colleges which are within the jurisdiction of the development projects in question. This is a process that the project staff and educational authorities always look forward to with a lot of eagerness (Oluoch, 2011).

Several essential steps should be taken to ensure effective implementation of the developed curriculum. However, implementation of curriculum is complex and does not proceed in a linear fashion, and the people involved can even have conflicting ideas about how to go about it. Because of this, there is need to put these and



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other issues into consideration. Needless to say, teachers are the implementers of curriculum and this is usually facilitated by Education Officers, Quality Assurance and Standards Officers (Q.A.S.O.s) and the school system steered by the head teachers, deputy head teachers, fellow teachers, Teacher's Advisory Centres (T.A.C.s) among others (Shihundu\$Omulando, 2013).

The history of ECDE shows a movement from private charity to public sponsored programs in the early 19th century through the 20th century. While Great Britain led the way in private nursery school programmes in the 19th century, the first public kindergarten programs were founded in Canada, the United States and Germany. The U.S continued to lead in some aspects of ECDE with such landmark as mandatory state-wide kindergarten in Mississippi in 1982(Harvey, 2013).He further posits that there has been an increase in attendance of public pre-K programs in the last 25 years. Causes for this increase include societal changes such as dual-income families, single parent families, and an increase in teen parents and a decrease in extended families' availability. Increased public support, increased awareness and evidence of school student success have contributed as well. The contribution of Rousseau, Pestalozzi, Frobel, Dewey and Jean Piaget among others improved the quality of life of the children (Driscoll & Nagel, 2002). Pestalozzi established orphanages to cater for destitute children while Frobel advocated play activities as a source of learning. Maria Montessori emphasized on use of senses for learning and holistic development of a child. She was the first to develop the curriculum of ECD program. Prior to Dewey, black American children were considered part of the workforce. They were rushed to grow in order to provide labour. He fought hard against child labour and discrimination (Driscoll & Nagel, 2002).

Marito(2007) says that, Early Childhood, from birth through school entry, was largely invisible worldwide as a policy concern for much of the twentieth century. Children, in the eyes of most countries including those in Africa, were 'appendages' of their parents or simply embedded in the larger family structure. The child did not emerge as a separate entity until school age, which was typically six or seven years.African leaders played key roles in a number of the international events that saw the history and growth of ECDE in Africa.

For a long time in Kenya, ECDE centres have been in the hands of private individuals and allactivities going on within the centres; including curriculum dispensation, have been of less concern to the government.However, in 2006, the government drafted a National ECDE Policy Framework and the National ECDE Service Standard. The Policy Framework provides a co-ordination roadmap and defines the roles of various stakeholders in ECDE.Key areas focussed on included; Quality of ECDE services, Access, Equity, Transition, Completion and Quality of ECDE, Mainstreaming of ECDE services by 2010, ECDE curriculum; a syllabus for ECDE in 2008, and Increased parental role in ECDE (Republic of Kenya, 2006).

To address the above issues, the government decided to implement the following policy: implement free and compulsory ECDE for all 4-5 year olds, implement the ECDE policy, ensure that all public primary schools have an ECDE unit, set quality standards and develop an ECDE performance framework, create funding modalities for ECDE, mobilise resources and engage stakeholders, develop and implement appropriate ECDE programs for all children with special needs, including the vulnerable and disadvantaged groups. (Republic of Kenya, April 2012).

From the above key areas that were focussed on, the most important to note is the publication of the ECDE curriculum; a syllabus for ECDE in 2008. This is so because previously ECDE teachers taught without any syllabus and whatever they did in those classrooms were 'right' in their eyes and in the eyes of the parents. It was very difficult to get quality education from the public pre-schools and for this reason, public pre-schools found themselves in stiff competition with their private counterparts. Most of the parents preferred private pre-schools because the owners made sure they had many learners which implied a lot of income for them.

This also implied that parents who could not afford to pay for private pre-schools either took their children to public ECDE centres for the sake of it, or left their children at home until they were old enough to join standard one. This is no longer the case especially since the government put up measures to mainstream ECDE services. It is evident that the far the government has gone is slowly bringing confidence in the parents as to take their children to public pre-schools. This is putting a lot of pressure on teachers who must work hard to offer quality services which entails curriculum implementation.



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Even so, the issue of teacher recruitment is still taking a process, but there is hope ahead. However, it is worth appreciating that even though the government is not paying the ECDE teachers' salaries, it has opened ways for training and is providing guidelines to ensure that the teachers get trained and sensitised on ECDE services. In the recent past, the Ministry of Education (M.O.E) has made an effort to supplement teacher's salaries in public ECDE centres through Community Support Grants. However, this only benefitted a few schools in Muhoroni Sub-County and was not motivating enough for these teachers to work harder.

Provision of instructional resource materials and learning facilities for these learners is also very critical since the much that has been done does not march the growing number of learners in public ECDE centres in Muhoroni Sub-County. However, there is element of growth since rarely do we come across learners taking their lessons under a tree with completely no materials as was the case before. However, there is a possibility that ECDE curriculum is not being effectively implemented in public pre-schools in Muhoroni Sub-County as stipulated by Kenya Institute of Education (K.I.E) syllabus of 2008.

ECDE Teacher-Learner Ratio

Teacher child ratio has been a subject of much attention among researchers in relation to the factors facing teaching and learning process. Early childhood development education has not been left out. Research shows that teacher child ratio has continued to grow. On average, teacher child ratio for both 3-5 years old children and 6-8 years olds still remains critical. Teachers are not comfortable with the increasing number of children in their classes they handle (Dodge & Colker, 2002). Still with these high ratios, ECDE teachers are poorly remunerated and under the mercy of parents (most of whom have little or nothing to give).

Sufficient staff with primary responsibility for children is available to provide frequent personal contact; meaningful learning activities; supervision; and to offer immediate care as needed. The ratio of staff to children will vary depending on the age of the children, the type of program activity, the inclusion of children with special needs, the time of day, and other factors. Staffing patterns should provide for adult supervision of children at all times and the availability of an additional adult to assume responsibility if one adult takes a break or must respond to an emergency (National Association for the Education of Young Children [NAEYC], (2005). NAEYC continues to say that staff-child ratios are maintained in relation to size of group. Multi-age grouping is both permissible and desirable. When no infants are included, the staff-child ratio and group size requirements shall be based on the age of the majority of the children in the group. When infants are included, ratios and group size for infants must be maintained. Staff-child ratios are maintained through provision of substitutes when regular staff members are absent. Substitutes for infants and toddlers are familiar with the children and oriented to children's schedules and individual differences in a systematic way before assignment. When volunteers are used to meet the staff-child ratios, they must also meet the appropriate staff qualifications unless they are parents (or guardians) of the children. Volunteers who work with children complete a pre-assignment orientation and participate in on-going training.

It should be noted that ECDE services are part and parcel of the requirement of the Constitution of Kenya (2010) as envisaged in the Bill of Rights (chapter 4). The following are set standards, whose implementation remains debatable: Children below 2 yrs. 1:4, 2-3 yrs. 1:10, 3-4 yrs. 1:15, 4-5 yrs. 1:25, 5-6 yrs. 1:30, 6-8 yrs. 1:40. However, the situation is quite different in public ECDE centres in Muhoroni Sub-County where ratios are never adhered to.

Research Methodology

The study adopted the descriptive survey design. Descriptive survey design is used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification. This design presents oriented methodology used to investigate population by selecting samples to analyse and discover occurrences. This design also provides numeric description of the population and describes and explains events as they occur. This design was deemed fit for this study because it considered issues such as economy of the design, rapid data collection and ability to understand a population from a part of it and therefore enabled the researcher to gather information on the dynamics of effective curriculum implementation in public ECDE centres in Muhoroni Sub-County.



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The study was carried out in Muhoroni Sub-County, Kisumu County. Muhoroni Sub-County covers part of the vast Kano plains and part of the Nandi escarpment. It is bordering Nandi Sub-County to the North, Kericho Sub-County to the East, Nyando Sub-County to the South and Kisumu East Sub-County to the West. Muhoroni Sub-County was chosen because of its diversity in culture as well as economic activities. It also covers different geographical areas and was presumed to give a clear picture of different backgrounds under one umbrella.

This study targeted all ECDE teachers in 100 public ECDE centres in Muhoroni Sub-County and 100 primary school head teachers to which the public ECDE centres are attached.

In this study, cluster sampling technique was adopted to ensure that areas within the Sub-County were adequately represented as the target population was consisting of different educational zones. The Sub-County was clustered into five educational zones which had some schools along the road and some in the interior. From each zone, 6 pre-schools were sampled using simple random sampling technique; this made a sample size of 30 pre-schools representing 30% of the total population. The sampling unit was the public primary school to which the pre-school was attached. Pre-school teachers and head teachers were selected from the sampled pre-schools. This sampling technique was preferred because it used the whole sample and every subject in the study stood a chance to be involved.

The researcher used a questionnaire for head teachers in this study. A questionnaire is a research instrument that gathers data over a large sample (Kombo and Tromp, 2006). It is a written list of questions that is to be filled in by a number of people with an aim of collecting information. The advantages of using questionnaires were: the person administering the instrument had an opportunity to establish rapport, explain the purpose of the study and explain the meaning of items that might not have been clear.

An observation checklist was also used to collect data. Observation involved the use of all senses to perceive and understand the experiences of interest of the researcher. It allowed the researcher to see for herself what the teachers actually did rather than what they said they did and also see the real state of the pre-schools in terms of infrastructure. The researcher chose this instrument as well to enable her record information as it occurred, explore topics that may be uncomfortable to the informants, and to be on the ground by herself to notice unusual aspects that may have been going on regarding the implementation of ECDE curriculum. The instruments were adapted from guidelines for Quality Assurance and Standards Assessments of schools in Kenya and modified to fit the pre-school setting.

Validity attests to whether an instrument measures what it is supposed to and is justified by the evidence (Uma, 2003). Essentially, it entails the extent to which an instrument actually measures the aspects that it is intended to measure. In this study, the researcher piloted the instruments in two ECDE centres which were not included in the study in order to ensure that data collected using such instruments adequately represented the domains of the variables that it was expected to measure. The pilot helped to improve face validity and content validity of the instruments. As such, the researcher sought assistance and scrutiny of the instruments from colleagues, the supervisor and experts which helped to improve content validity of the instruments.

Uma (2003) posits that reliability refers to whether an instrument is consistent, stable and free from error, despite fluctuations in test taker, administrator or conditions under which the test is administered. To ensure that the instruments were reliable, they were piloted in two pre-schools which were not included in the study to determine item efficiency and revise any items that might have been ambiguous. The aim of pre-testing was to gauge the clarity and relevance of the instrument items so that those items found to be inadequate for measuring variables were either discarded or modified to improve the quality of the research instruments. This ensured that the instrument captured all the required data.

The procedure for extracting an estimate of reliability was obtained from the administration of Test-Retest reliability method which involved administering the same instrument twice to the same group of subject with a time lapse between the first and second test. A Pearson's product moment correlation coefficient formula was used. The researcher obtained a coefficient of 0.78 for the questionnaire and 0.90 for the observation checklist. According to Mugenda & Mugenda (2003) a coefficient of 0.80 or more simply shows that there is high reliability of data.



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The researcher first obtained a letter of introduction from the School of Post Graduate Studies. This enabled the researcher to obtain a research permit from the National Commission for Science, Technology and Innovation, thereafter from the County Commissioner, Kisumu and the County Director of Education, Kisumu to enable her carry out an assessment in the public ECDE centres in Muhoroni Sub-County, Kisumu County. The data was collected within a period of one and a half months. It was collected using questionnaires and observation checklists. The questionnaires were administered to the respondents, who were given some time to fill in and return. The observation checklists were filled by the researcher on the ground.

After doing the assessment, editing was done. This entailed reading through the reports and gathering information from instruments. The information was coded and categorized through a categorization process (MacLeod & Rutherford, 2004). Quantitative data was subjected to the computer for analysis using the Statistical Package for Social Sciences (SPSS Version 21). This processed the frequencies and percentages which were used to discuss the findings. Frequency distribution tables, pie charts and bar graphs were used to present the data while descriptive statistics such as percentages and frequencies were used to answer research questions. Qualitative data was also analysed thematically. Finally, data interpretation was done. This essentially involved locating the meaning of an experience or event in the context of larger sets of meanings (Martin, Sugarman & Thompson, 2003). All interpretation was 'aspectual'; meaning that it was taken from a first person point of view.

Results and Discussion

Demographic Information of the Head Teachers

The demographic information of the head teachers was based on gender, age and education level. To determine their gender, age and education level, they were asked to indicate the same. Figures 1, 2 and Table 1 present the results.

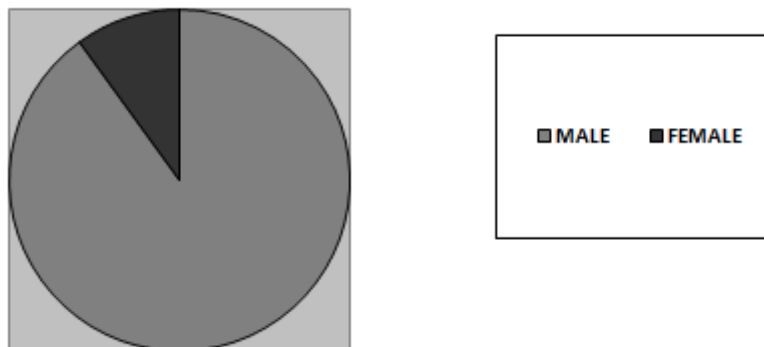


Figure 1 Distributions of Head Teachers by Gender

Figure 1 shows that a majority of the head teachers were males representing 90% whereas only 10% were females

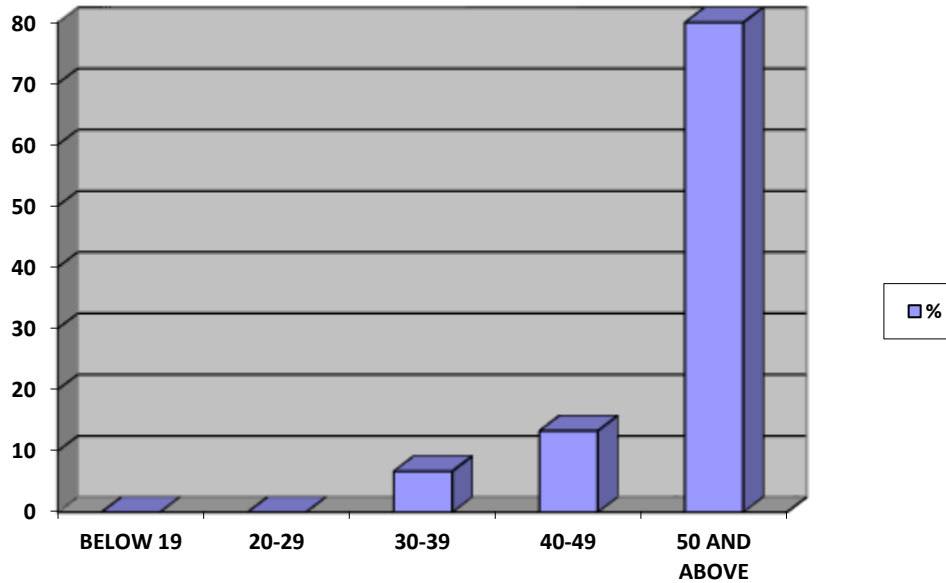


Figure 2 Distribution of Head Teachers by Age

The above results indicate that most of the head teachers were 50 years old and above, representing 80% and the remaining 20% between 30-49 years of age. It clearly indicated that no head teacher was 29 years and below. This was indicative of how ECDE is currently managed by older teachers who may not be well conversant with the new trends or emerging issues in ECDE.

Table 1 Distribution of Head Teachers by Education Level

Education level	Frequency(f)	Percentage (%)
BED ECDE	0	0%
Diploma ECDE	6	20%
P1 Certificate	16	53.3%
Other	8	26.7%
Total	30	100%

From the table above, 53.3% of the head teachers were P1 certificate holders and 26.7% represented a group with other qualifications like special needs or primary option. However, it clearly indicated that only 20% of them had a diploma in ECDE and none of them with a degree on the same. This indicated that only 20% of ECDE managers were conversant with ECDE and the remaining 80% had no training on ECDE.

Effect of Teacher-Learner Ratio on ECDE Curriculum Implementation

The study intended to determine the teacher-learner ratio in public ECDE centres. To achieve this; number of ECDE teachers per pre-school and enrolment of learners per level in each pre-school was taken. In addition, the researcher was also interested in the level of education of the pre-school teachers. Tables 2, 3, 4, 5 and Figure 3 present the results.



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Table 2 Distribution of ECDE Teachers per ECDE Centre

Number of teachers per pre-school	Frequency(f)	Total number of teachers	Percentage (%)
1	6	6	20%
2	17	34	56.7%
3	7	21	23.3%
Total	30	61	100%

Table 2 indicates that only 23.3% of the sampled schools had enough teachers for all levels, 56.7% only had two teachers against three levels and 20% had one teacher for all the three levels. This indicated that most ECDE teachers had a heavy workload since they were forced to handle all the classes at a time. It also indicated that most of the public ECDE centres were understaffed with others literally lacking a teacher in case the one they had was held up somewhere or fell sick. This implied that public ECDE centres lacked enough teachers to handle the learners and therefore curriculum implementation was a big challenge.

Table 3 Distribution of ECDE Teachers by Education Level

Education level	Frequency(f)	Percentage (%)
BED ECDE	0	0%
Diploma ECDE	10	16.4%
Certificate ECDE	18	29.5%
O Level	18	29.5%
Other	15	24.6%
Total	61	100%

Table 3 indicates that 54.1% of ECDE teachers were untrained. Even though the remaining 55.9% were trained, none of them held a bachelor's degree in ECDE. Only 16.4% had a diploma and 29.5% had a certificate, representing the majority of the trained category. This implied that most of the public ECDE centres are handled by untrained personnel who may not be aware of the requirements of curriculum implementation.

Table 4 ECDE Levels per ECDE Centre

ECDE levels	Frequency(f)	Percentage(%)
1	0	0%
2	7	23%
3	23	77%
Total	30	100%

From table 4, 77% of the sampled schools had the three levels of ECDE and only 23% had two levels instead of three. This meant that not all ECDE centres in Muhoroni sub-county covered the entire ECDE curriculum.



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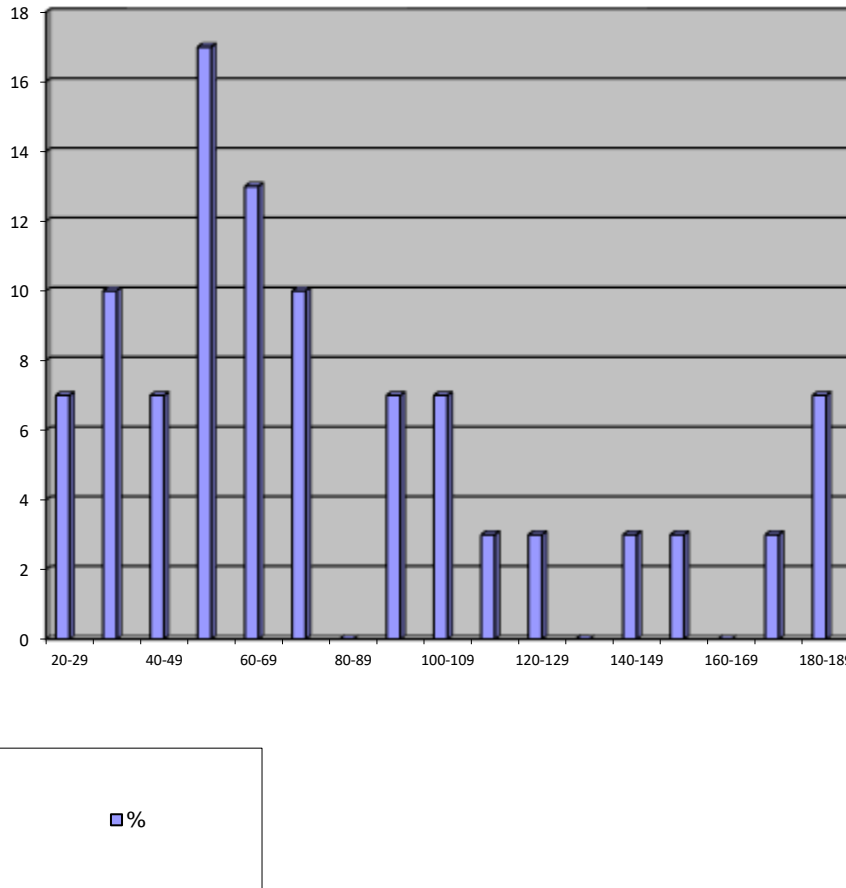


Figure 3 Learners' Enrolment per ECDE Centre

Figure 3 on learners' enrolment indicates that only 7% of the sampled schools had an enrolment of less than 30 learners and 7% had an enrolment as high as 189 learners. 10% had an enrolment of between 30-39 and 17% an enrolment between 50 and 59.

Table 5 Teacher Learner Ratio

Teacher-learner ratio	Frequency(f)	Percentage (%)
1:10-19	2	7%
1:20-29	6	20%
1:30-39	10	34%
1:40-49	1	3%
1:50-59	5	17%
1:60-69	4	13%
1:70-79	1	3%
1:80-89	1	3%
Total	30	100%

Table 5 indicates that, only 27% of the sampled schools had a teacher-learner ratio of 1-29. The remaining 73% had low teacher-learner ratio with 3% indicating as high as 89 learners against one teacher.

Conclusions and Recommendations

Based on the findings of the study, it was concluded that there were low teacher learner ratios in public preschools due to the growing number of learners in these centres. It was also recommended that the



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government should step in and make sure that ECDE teachers are employed to meet the rising enrolment in public ECDE centres.

Acknowledgement

I would like to thank the Almighty God for availing an opportunity and strength to pursue my education. I would also like to give special thanks to my supervisors Dr. Murunga Jaluo and Ms. Pricilla Galava for their moral support and academic guidance despite their busy schedules. I also acknowledge Dr. Pamela Ochieng', this is because of her lectures and notes on research methods. I will not forget all my colleagues and friends for their support and pieces of advice on certain matters during the entire period of this study. Last but not least I acknowledge all the respondents who helped with the data for without them this study would not have been completed.

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