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**TEACHER QUALIFICATIONS AND EXPERIENCE
IN DEVOLVED MANAGEMENT OF EARLY CHILDHOOD
EDUCATION TO THE COUNTY GOVERNMENT: A COMPARISON
OF LEARNER PERFORMANCE BETWEEN PUBLIC
AND PRIVATE SCHOOLS IN KENYA**

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Abstract:

The Kenya 2010 Constitution placed management and financing of Early Years' Education (EYE) under custody of County Governments. As such management and efficiency of early childhood education is expected to be more effective in offering quality ECDE in the counties than it was before devolution. This study emerges from the theoretical perspective that increased inputs should lead to increased outputs. Consequently, the Education Production Function (EPF) theory was employed. The objective of this comparative study was to compare teacher qualification and experience and how these teacher factors could influence learning and achievement of pupils in public and private ECDE centres in the context of increased funding to public ECDE centres. Kericho County with a target population of 1,066 teachers and 18,405 pupils in public ECDE centres as well as all the 628 teachers and 4,180 pupils drawn from 750 public and 258 private ECDE centres was selected for the study. Pupils in Pre-Primary 2 (PP 2) were used in the study. Sampling was done through stratified, purposive and simple random sampling methods. The sample size was determined by adopting the

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Krejcie and Morgan formula. Cross-sectional correlation survey was used to compare the impact of selected independent variable on academic achievement among ECDE learners. Data collection was done using questionnaires, observation schedules, document analysis guides, and interview guides. The instruments were validated by experts and piloted to determine their reliability in neighbouring Bomet County. Qualitative and quantitative data collected was analyzed using respective techniques. The quantitative techniques involved descriptive and inferential statistics in order to answer the questions posed for study. Qualitative techniques involved descriptive statistics. The results obtained showed that despite the increased funding to public schools, learners in private schools had high academic achievement compared to their counterparts in public schools. The study provides useful information for education policy makers in both levels of government for decision making with regard to devolution of management of ECDE centres, funding and academic performance. Proposed guidelines are intended to deliver, accountability for Early Years Education (EYE) funding, service delivery and increased quality service. The major findings of this study show that in spite of funding by the County Government, learners in Private ECDE centres continue to outshine their counterparts in the Public ECDE centres. This implies that there could be other underlying factors that affect performance at this level other than funding.

Keywords: ECDE devolved management, County government, teacher qualifications and experience, learner achievement in public and private ECDE centres

1. Introduction

Education for the young has been in existence for as long as there has been parenthood. Nevertheless, management of Early Childhood Development and Education (ECDE) has remained unstructured for a very long time. Early Years' Education (EYE) has at different times been managed by the family, the church, the community and the private sector. In Kenya rarely has ECDE been the responsibility of any government agency.

In traditional Kenyan society, the family and the community at large had the responsibility of bringing up children to fit in the society. Children were brought up from the earliest point to prepare for their adult roles. Formal early childhood education in schools was introduced in the 1930s in schools in urban centres to benefit Europeans and Asian children who lived in towns. The first pre-schools for African Kenyan children were set up in the 1950s. These were essentially safe custody centres for children whose mothers worked in plantations owned by Europeans. Compared to European and Asian early years' education centres, African centres were inferior. However, racial competition spurred Africans to realize the value of early childhood education.

Immediately after Kenya's independence the Simon Ominde-led African Education Commission of 1964 recommended the establishment and strengthening of

early childhood education centres for Africans. Today the clamor for early childhood education is more widespread. Fifty percent of Kenyan children aged 3-6 attend ECDE centres.

County government management of EYE is a proxy for increased funding to early childhood education. Although primary schools in Kenya were required to create an ECDE annex from January 2003, the governments involvement and funding was minimal. The promulgation of the 2010 Constitution gave the responsibility of ECDE management to County Governments. County Governments were given budgets for infrastructure, hiring of teachers, and the purchase of instructional materials.

Funding is a critical input to education (Barret, 2018). Increased funding is expected to provide better teaching and learning resources in the form of teachers, classrooms, instructional materials and better nutrition for pupils at the early childhood stage. Increased funding should therefore increase enrollment and class attendance. Early Years' Education (EYE) is the cradle of future learning. It is widely recognized as a critical period in children's physical, mental and psychosocial development (Austin, 2010). Early education is the period when children acquire basic skills that serve as the foundation for later learning. ECDE develops the capacity to learn, to read and use mathematics, to acquire information and to think critically about the information acquired (Oakes, Maier & Daniel, 2018).

The Kenya primary school Grade One curriculum assumes certain knowledge levels among entrants: ability to speak in a given language with fellow children, ability to count, to draw and to describe their immediate environment. Children who attend early years' education classes have better chances of going to better high schools, performing better in secondary education and joining university. Brunner (1963) postulated that *"any child can learn any content to high comprehension as long as that content is presented to the child in a way meaningful to the child."* The purpose of EYE centres is to provide education for all and cater for diversity in social income.

Children born in and attending school in rural areas are often disadvantaged in terms of language of communication in school and exposure to the modern technology. Although primary school education in Kenya is free, there is a dropout rate of 11% (Ghosheh, 2009). A 2015 survey conducted by Uwezo Kenya indicates that the literacy skills in Kenya, alongside other Eastern Africa countries, are low. It established nationally that only three out of ten children in Class Three can do Class Two work. Overall, 4.6% and 0.9% of children attending public schools in class three and eight respectively cannot read at all (Uwezo, 2013). These findings are vindicated by perennial poor Kenya Certificate of Primary Education (KCPE) examination results where many candidates score less than 100 marks out of 500.

The promulgation of the 2010 Constitution was to alter the landscape of ECDE completely. A new legal framework placed ECDE under county governments. An Act of Parliament (2014) came into force, stipulating the functions and procedures to be followed. It declares early years' education to be free and compulsory for young children

in counties. The Act stipulates that every child has a right to education without discrimination, exclusion or restriction on the basis of sex, race, colour, ethnic origin, tribe, birth, creed or religion, social economic standing, political or other opinion, property, disability or other status. In Kenya the funding and management of early years' education is now the responsibility of the County Governments. The counties are expected to ensure the enjoyment of the right to early years' education by providing resources to ensure, among other things, availability and access to early years' education for all children within the county.

Nevertheless, the private sector remains an active participant in the provision of quality ECDE. Over the years, public and private early childhood study centres have risen in competition. The private ECDE centres are perceived as more prestigious associated with better training and preparation for entry into primary schools. Every primary school in Kenya created an ECDE wing as from 2003 and with much greater support from the County Government from 2010 following devolution. It is expected therefore that public school early years' education will be more efficient and make an impact on the future of the learners.

Under this new arrangement it is expected that the quality of ECDE will rise against this background it is important to establish the impact of these allocations on the quality of ECDE. It is therefore logical to compare public and private ECDE centres. It is often assumed that investors in private ECDE centres provide better quality education. Is it still the same when County governments are generously funded? There is need for research evidence for this.

Given such massive investment through the County Government in ECDE centres in public primary schools, it was expected that the academic performance of learners should be commensurate with the investment so far made. Has increased funding in public EYE centres led to better performance among learners in public ECDE centres compared to private ECDE centres?

2. Purpose of the Study and Objectives of the Study

The purpose of this comparative study was discussed the influence teacher qualifications and experience and how they interact to influence achievement in public and private ECDE centres in the context of increased funding to public sector schools by county governments through the exchequer. The study was guided by the following specific objectives:

- 1) To compare teachers' qualifications and experience in public and private ECDE centres;
- 2) To compare performance on achievement test between pupils in public and private ECDE centres after one term of instruction.

2.1 Research Question and Hypothesis

Objectives 1 is qualitative. A research question has been set to help find answers:

- What is the difference in qualifications if any between public ECDE tutors and private ECDE tutors?

Objectives 2 is quantitative in nature. A hypothesis was set and tested for significance:

- H_{01} : There is no significant difference in performance on a test between public and private ECDE centres.

3. Theoretical and Conceptual Perspectives

3.1 Theoretical Framework

In view of the independent variables of the study and their link with the dependent variable, the most appropriate theoretical perspective adopted was the Education Production Function (EPF) Theory. The relationship between inputs and outputs of education system may be called the Education Production Function (World Bank, 1980). Production function refers to the process by which inputs are converted to outputs. The EPF theory is derived from the general Production Function theory except for the fact that the EPF relates specifically to education.

The school in this case is treated as a production firm whose aim is not to make profits. School characteristics, teacher characteristics and pupil characteristics are considered as inputs. Academic performance by ECDE learners is considered the output. The EPF postulates that the quantity and quality of inputs in an education system determines the outcomes seen among learners. The EPF can be used to analyze the internal efficiency of any education system. The internal efficiency of an education system concerns the relationship between the inputs such as teacher and resource quality, and the outputs such as marks attained by learners.

Psacharopoulos & Woodhall (1985) noted that the relationship between inputs and outputs of education is highly complex. Many factors are involved. The EPF theory assumes that the differences in quantities and qualities of school inputs are the ones responsible for the variations in the educational outcomes. Factors which may determine performance among school-going children include the type of school whether public or private, the number of trained teachers and how they teach, and, the available resources and how they are utilized. It is up to a researcher to isolate and measure the effect of the selected variables.

The type of school was defined as public or private. The two types were separated through stratified sampling. Teacher qualification was defined as either trained or untrained. All trained teachers were placed in the same category regardless of the level. Teaching methods used were described as play way methods and formal, child centred and teacher centred and small group and large group. Resources were in the form of visual, audio, and touch. Resources were categorized as available and used, available not used or not available and therefore not used.

Educational outcomes are the product of very many inputs. However, this study focuses only on inputs such as teacher quality, teacher methods, learning resources and type of school. The importance of each independent variable for performance of learners is the basis of this study. To determine the effect of educational inputs on academic performance the researcher performed regression analysis of relationship between independent variables and the dependent variable. The regression model developed emerged from the EPF.

3.2 Conceptual Framework

A conceptual framework depicts the researcher's understanding of the possible link between the IVs, the moderating variables, the DVs and the control variables. This researcher understands a conceptual framework to be an argument of how the IVs relate with the DVs. It is a way of linking all the elements of the research process, research disposition, interest and personality, literature and theory and methods as explained by Ravitch and Riggan (2013). Conceptual framework is purely a visual representation of a study's organization and the researcher's argument about the importance of the study and its rigor (Mugenda & Mugenda, 2012).

In the present study the conceptual framework shows that increased funding arising from devolution provides more resources which should benefit learners at tis foundation level. Increased funding will lead to recruitment of more qualified teachers. This will lead to better academic performance by learners in ECDE centres. In the model presented, it is conceptualized that increased funding of ECDE centres has led to better resourced public schools which should dwarf private ECDE centres. The type of school attended may also influence academic output by the learner. Better resourced schools should have better teachers; and the better trained a teacher is, the better resources at the teacher's disposal, the more active teaching methods the teacher applies to the learning situation, the higher the achievement for the learner.

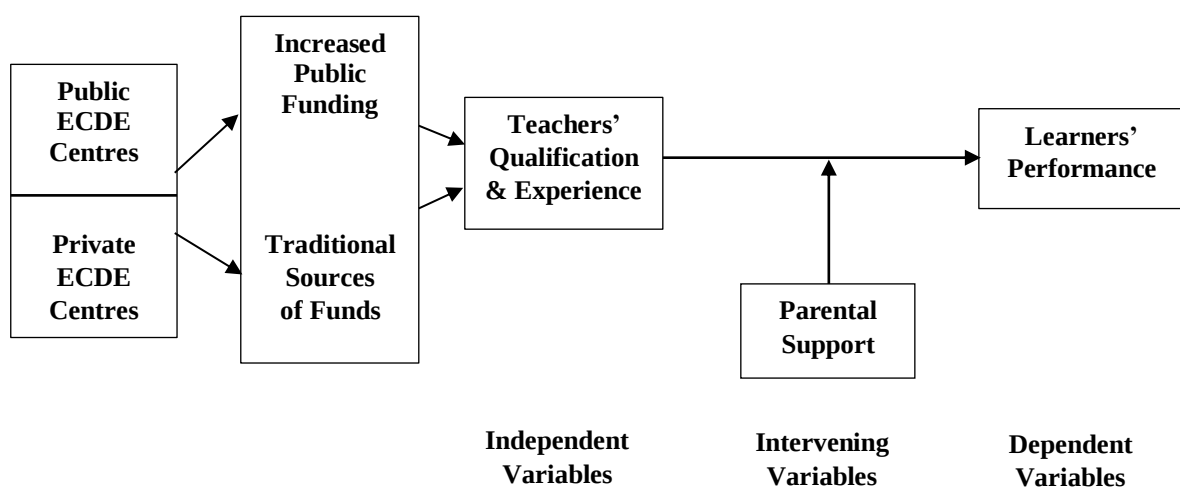


Figure 1.1: Conceptual Framework for Comparison of Teachers' Qualification & Experience in relation to Learners' Performance Between Public and Private Schools in Kenya
(Source: The researcher)

The visual representation of the variables selected for this study and how they relate to one another is shown in Figure 1.1:

4. Research Methodology

The paradigm selected for this study was the sequential mixed method approach in which the researcher began with qualitative techniques such as interview and observation to follow up with quantitative techniques such as survey on a larger sample.

4.1 Research Design

In order to compare the impact of selected independent variables on academic achievement among ECDE learners the researcher chose to conduct a cross-sectional correlational survey study using alternative treatment post-test only with non-equivalent groups design. Two groups were involved; each one received a different form of treatment. The non-equivalent groups involved were public and private ECDE cohorts. The treatment received by the groups was not necessarily the same or similar. The different treatments are the differences in teachers' qualification and teaching experience. The design is represented diagrammatically in Figure 3.1.

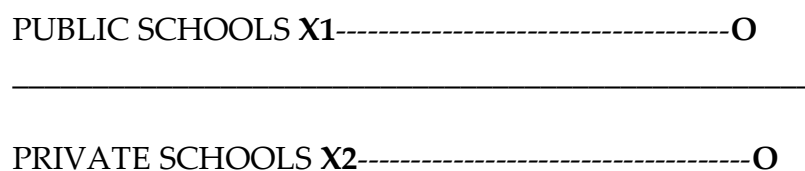


Figure 3.1: Alternative Treatment Post-Test Only
with Non-Equivalent Groups Research Design

Two experimental groups were selected: public and private schools. Treatment will be administered to the two non-equivalent groups and then a post-test administered to both groups. Treatment was in the form of teaching given to the different groups. Later, during data analysis a 5x2 factorial design was adopted.

The population of interest in this study consisted of all Public (750) and private (258) ECDE centres, all teachers in public and private ECDE centres and all pupils in the "PP 2" of all ECDE centres. The target population consisted of all ECDE pupils, teachers in ECDE and ECDE centres in Kericho County and to a limited extent such population found in rural Counties similar to Kericho.

4.2 Sampling Procedures and Sample Size

Stratified simple random sampling technique was employed in which the use of the Krejcie & Morgan table gave a sample size of 254 public ECDE centres and 155 private ECDE centres from a population of 750 Public and 258 private ECDE centres respectively.

Consequently, from population 525 and 258 teachers from public and private ECDE centres respectively, a sample of 254 and 155 from public and private ECDE centres respectively. Finally, out of a population of 18,405 and 4,180, a sample of 375 and 351 pupils were randomly selected for use.

The sample sizes of schools, teachers and pupils selected randomly and purposively for this study are shown in the sampling frame shown below. Table 3.2 shows the sampling frame used in the study.

Table 3.2: Sampling Frame

Unit	Population		Sample	
	Public	Private	Public	Private
Schools	750	258	254	155
Teachers	525	258	254	155
Pupils	18405	4180	375	351

The results in Table 3.2 shows the number of schools, teachers and pupils from both private and public ECDE centres selected for use in the study.

4.3 Instrumentation

The selection of tools had been determined by the nature of the information to be collected, the time available and by the objectives of the study. Several data collection methods were used to study the problem at hand. The instruments used for data collection in this study includes: questionnaires, interview guides, observation checklists and pupil performance tests.

4.4 Validity and Reliability of Research Instruments

In research it is important to ensure quality of findings. This was done by adopting strategies which enforce reliability and validity of tools used. A pilot study was conducted to find out the extent to which tools used for data collection are valid and reliable.

4.4.1 Validity

Validity refers to a researchers' ability to draw meaningful and justifiable inferences from scores about a sample or population (Creswell, 2005). In this study the researcher engaged and sought assistance from her supervisors and members of the postgraduate class at Moi University to read and assess the relevance of the research instruments against the objectives of the study. The supervisors' and students' suggestions and opinions were incorporated to help improve the questions in the questionnaire and in the interview guide.

4.4.2 Reliability

Test-retest reliability was used in this study. This test indicates the degree to which scores obtained from the same informants remain consistent over brief periods during which the subject's competencies are not likely to change. Data used in this case was obtained by administering the same test twice over a period of time to a group of individuals. The scores from Test 1 and Test 2 were then correlated in order to evaluate the test for stability over time. If the results of the study can be reproduced under a similar methodology, then the research instrument is considered reliable Joppe, (2000). In this study the Cronbach alpha test gave an alpha (α) coefficient of 0.72. Thus, giving confidence that the items in the test are closely related and truly measure the internal consistency of respondents.

4.5 Data Collection Procedures

Data was collected by the researcher assisted by two trained assistants. The researcher visited schools and the Questionnaires were issued to respondents and given time to respond. Later they were collected physically to ensure high return rate. The interview sessions were carried out face to face using probing questions for further explanations and clarifications and responses were recorded.

4.6 Data Analysis

Data was analyzed based on the objectives. Qualitative objectives were analyzed qualitatively. Data was organized around themes which answer specific questions. Quantitative data was analyzed quantitatively and organized in tables. Descriptive statistics involved computing frequencies, percentages, drawing histograms and pie charts among others. It also involved computing means and standard deviation.

4.7 Ethical Considerations

This study involved human subjects as respondents. As such, the researcher sought and obtained permission to conduct research from concerned authorities. During data collection ethical practices were upheld by first seeking consent from the participants. In addition, the identity of the respondents was concealed. An accurate account of information collected was given during data interpretation hence no falsification of data. Finally, when results of this study were released to readers that they can determine for themselves the credibility of the findings Neuman, (2000).

5. Results and Discussion

The study sought to achieve the following objectives:

- 1) To compare qualifications and experience of staff in public and private ECDE centres.

- 2) Compare performance on achievement test between pupils in public and private ECDE centres after one term of instruction.

5.1 Demographic Information on the Respondents

General information regarding the respondents' age and gender was sought. The findings are presented as follows:

5.1.1 Age

Information on age was relevant for this study because numerous studies have shown that age can make a difference in the way people understand issues in life. Results from questionnaires used in this study indicated that majority of the teachers lie between the bracket of 26-35 years (46.7%) and 36-45 years (33.3%). Research has shown that teaching experience is a critical variable in students' learning outcomes in school. Similarly, Rugraff (2006) established that the percentage of student scoring advanced and proficient increased as the number of years of teaching experience increased, peaking at years 11-19 and then decreasing for teachers with 20 or more years of experience.

5.1.2 Gender

Data on gender was necessary to this study because it is commonly believed that a person's gender can have an effect on their way of thinking, thus majorly affecting the result of the survey. Responses on the question of gender indicated that a measly 27(7%) of the respondents were male while the rest 382 (93%) were female. This implies that majority of the teachers in the ECDE centres where the study was carried out were female. Moyo, Wadesango and Kurebwa (2012) identified gender as one of the factors affecting implementation of early childhood education programmes.

5.2 Teachers Professional Qualification and Length of experience in Public and Private ECDE Centres

The first objective of the study sought to compare qualifications and experience of staff in public and private ECDE centres. To address this objective an analysis of the findings on teachers' qualifications and experience was carried out. Results are presented in two sub-sections:

5.2.1 Comparison of Teachers Professional Qualification in Public and Private ECDE Centres

Respondents were asked to state their highest professional qualification. This is one of the influential factors that determines students' success. Therefore, it becomes imperative to know the professional qualification of the teachers. Results indicate that majority of the teachers, 272(66.7%) were graduates of diploma level of training, 123(30%) were qualified at the certificate level while only 13(3.3%) had attained a degree qualification.

From the table, 70% of the teachers' qualification was of diploma and above. 30% of the teacher's highest qualification therefore was a certificate.

To address the objective of the study a comparison of qualifications of teachers in private and public schools was carried out. The findings are shown in Table 4.1

Table 4.1: School Type versus Qualification

		Qualification			Total
		Certificate	Diploma	Bed	
School Type	Count	16	124	16	155
	Private School % within school type	10.0%	80.0%	10.0%	100.0%
	% within qualification	11.1%	40.0%	100.0%	33.3%
	% of Total	3.3%	26.7%	3.3%	33.3%
	Count	102	152	0	254
	Public School % within school type	40.0%	60.0%	0.0%	100.0%
	% within qualification	88.9%	60.0%	0.0%	66.7%
	% of Total	26.7%	40.0%	0.0%	66.7%
Total	Count	123	273	13	409
	% within school type	30.0%	66.7%	3.3%	100.0%
	% within qualification	100.0%	100.0%	100.0%	100.0%
	% of Total	30.0%	66.7%	3.3%	100.0%

The results in the table indicates that a bigger portion of teachers in public schools, 124(26.7%) than in private schools, 16(3.3%) were of certificate level of training, the same goes for Diploma teachers 152(40%) and 124(26.7%) for public and private respectively whereas one 102(3.3%) in Private school and none in public school and holds a degree in Early Childhood Education. This shows that a higher percentage of teachers in public schools were of lower level of training as compared to teachers in private schools. This agrees with Cranton's (1994) assertion that the level of training of a teacher determines the quality of performance in their work.

According to Martinez-Beck and Zaslow (2006) ECDE educators are required to meet certain qualifications and receive professional development to enhance their abilities to support children's learning. This study, therefore, shows teachers with higher qualification are more motivated to teach and their learners will achieve higher scores in achievement tests. Different ranges and levels of qualification and training of staff in education influences quality of education. Kathuri (2005) further indicates that good and quality staff is an asset to the school. Teacher-pupil ratios are generally regarded as measures of school quality.

5.2.2 Comparison of Teachers Length of experience in Public and Private ECDE Centres

Work experience is a critical component of being an effective ECDE teacher. Harris and Sass (2011) believe that the more a teacher stays at a job, the more they are exposed to students of varying backgrounds, which in turn improves their job performance. The participants in this study were therefore asked to state how long they had taught. The

results for this response show that majority of the respondents have a length of service between 11 – 15 years (33.3%) followed by 6-10 years (26.7%).

5.3 Comparison of Learners Performance in Public and Private Schools

The study went further to compare performance of pupils in public and private schools. Table 4.2 and Figure 4.1 contain a distinction of performance of both public and private.

Table 4.2: Comparison of performance in Public and Private Schools

		Categorized Marks				Total	
			40 marks and below	41 -60 marks	61-80 marks	81-100	
School type	Private School	Count	0	5	110	236	351
		% within school type	0.0%	1.3%	31.3%	67.3%	100.0%
		% within categorized marks	0.0%	0.8%	29.7%	100.0%	27.3%
	Public School	Count	29	242	104	0	375
		% within school type	7.8%	64.5%	27.8%	0.0%	100.0%
		% within categorized marks	100.0%	99.2%	70.3%	0.0%	72.7%
	Total	Count	41	343	208	134	726
		% within school type	5.6%	47.3%	28.7%	18.4%	100.0%
		% within categorized marks	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 4.1 shows that a Comparison of performance of public and private schools in terms of academic performance.

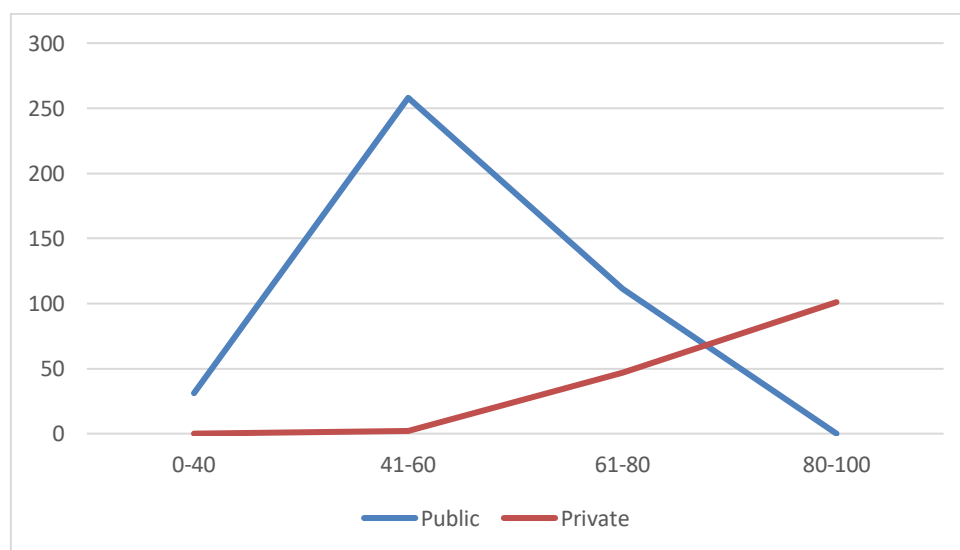


Figure 4.1: Comparison of performance of public and private schools

6. Summary of Findings, Conclusions and Recommendations

The first objective of the study sought to compare teachers' qualifications and experience in public and private ECDE centres. Results from the study indicates that a higher percentage of teachers in public schools were of lower level of training 169 (66.7%) in certificate and diploma as compared to 67(43.3%) teachers in private schools. This implies that the higher portion of teachers in private schools with higher qualifications would have a positive effect on pupils' performance.

The second objective of the study sought to compare performance results on achievement test between pupils in public and private ECDE centres after one term of instruction. The results on this section shows that majority of the pupil's in private ECDE centres continue to outshine their counterparts in public ECDE centres with regard to their academic performance.

7. Conclusions, Implications and Recommendations

7.1 Conclusions

Based on the findings of the study, the following conclusions were arrived at:

- 1) high teacher qualification has a positive effect on pupils' performance.
- 2) pupil's performance in private ECDE centres is higher compared to their counterparts in public ECDE centres

7.2 Implications of the Study

The findings from this study lead to the following implications with regard to management of ECDE centres:

- 1) when recruiting teachers to teach in ECDE centres teacher qualification must be considered since it as effect on pupils' academic performance.
- 2) good pupils' performance in private ECDE centres is attributed to availability of qualified teachers among other factors.

7.3 Recommendations

The findings of this study show that good management of ECDE centres leads to good performance of pupils. Based on these findings the researcher made recommendations for managers of both public and private ECDE centres.

Early Years' Education is the cradle of future learning. provision of good quality ECDE positively affects cognitive, physical and socio-economic development of children. To maximize on the management of ECDE by the county government, the following recommendations are made:

- 1) The county QASO and EYE officers should ensure implementation and supervision of National curriculum for EYE personnel and children through regular visits and capacity building for the personnel.

- 2) The County QASO and EYE officers will be required to submit EYE quality assessment reports to County Education Board.
- 3) The County QASO and EYE officers shall ensure the EYE children are assessed using the Kenya School Readiness Assessment Tool (KSRAT).

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