

Explaining the Performance Gap between Children with Preschool Education and those Without: A case of Mauche Division, Nakuru County, Kenya

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Abstract

The early years of life are the best opportunity to lay the foundations for a child's future. By getting it right in early childhood, the society plants the seeds for tomorrow's active pupil, productive, skilled worker, confident and loving parent. This article sought to explain the performance gap between children with preschool education and those without a case of Mauche Division, Njoro Sub-County, Nakuru County, Kenya. The purpose of this study is to establish the influence of preschool education on learners' academic performance at public lower primary schools in Mauche Division Nakuru County, Kenya. The study adopted Ex-post facto research design and was based on Ecological Systems Theory by Urie Brofenbrenner and the cognitive development theory by Jean Piaget. It used mixed approach in which both qualitative and quantitative data were collected and analyzed. It was based on a population of 44799 pupils now in class four, 732 teachers and 87 head teachers. From this population, 72 pupils were randomly sampled, 18 teachers were purposively sampled while from a total of 18 head teachers six from the participating schools were involved. Pupils' termly divisional exams results record in each of the schools were used as the dependent variable. The results for each sampled pupil in English, Mathematics and Science were analyzed for the entire lower primary school period spanning three years. Questionnaires, mark lists and interview schedules were also used to gather the required information from the teachers. Data collected for this study was analyzed using both descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS) version 22.0. Quantitative data was analyzed by calculating the means for each subject per term, per year and also by calculating the totals for the entire lower primary cycle. The information was then presented using tables and figures. It is envisaged that the results of this study may be useful to educational policy makers, the school management and preschool teachers in planning and making decisions to strengthen preschool education. Research findings revealed that pupils with preschool education significantly out-performed their counterparts without preschool education in all the three subjects studied and in all the terms. The study therefore concluded that preschool education equips children with certain skills and competences that seemingly make learning easier and faster. The researcher recommends that the Government of Kenya should encourage all parents to send their children to preschools for this seemingly crucial early exposure to formative experiences.

Keywords: *Academic performance, continuous assessment test, early childhood education, evaluation, preschool education, preschool experience.*

1. Introduction

A preschool is an educational establishment offering early childhood education to children between the ages of three and five, prior to the commencement of compulsory education at primary school. Preschool education (PE) focuses on preparing young children for formal education, (Arora and others 2006). The early years of life are the best opportunity to lay the foundations for a child's future. By getting it right in early childhood, the society plants the seeds for tomorrow's active pupil, productive and skilled worker, and confident and loving parent (COAG, 2009b). Investments of time and money in the early years have been shown to be far more cost-effective than investments made at any other time (Heckman & Masterov 2004; Keats dale Pty Ltd, 2003).

The skills children develop as infants, toddlers and preschoolers are cumulative and form the basis for later skills' development (Cunha 2006). Early learning contributes to a chain of effects that either reinforces initial achievements or exacerbates initial difficulties (Stipek 2005). As a result, children enter school with marked differences in the cognitive, emotional, attention-related, self-regulatory, learning and social skills needed for success in the school environment (Murray & Harrison 2011; Raver & Knitzer 2002), and these differences are predictive of later academic success (Bowes 2009; Claessens 2009; Duncan 2007 and others; Stipek 2001).

In Malaysia the preschools seek to prepare children before enrolling them in schools with formal education; they provide child-care although with little academic content. The government has no formal preschool curriculum, except a formal mandatory training and certification for principals and teachers before they may operate a pre-school (Bakri, 2007). This shows how preschool education is well regarded as a foundation for the development of a child.

Each year, there is a growing realization that Preschool education is a necessary public service. Studies have shown that Preschool Education helps reduce school dropout and delinquency through enhanced academic performance (Ad hock, 2006). Educationists and researchers agree that the quality of the preschools is important for children's psychological and intellectual development, which eventually enables them settle well in school and employment thereafter. Kariuki, Chepchieng, Mbugua and Ngumi (2006), in their study observed that teachers perceive Preschool Education as more effective in preparing children for academic competencies than social emotional ones.

The government of Kenya recognizes preschool education as one of the educational cycles, which can lay a firm healthy foundation for children during these formative years (GOK, 1992). The introduction of the Free Primary Education (FPE) by the government in 2003 was a major step in ensuring that all children access primary education. However this initiative left out preschool education leaving the parents to continue meeting the cost of preschool education for their children. That FPE did not result in the closure of preschools is reason enough encouraging that many people still understand the importance of preschool. However the same gesture may have discouraged a good percentage of parents unable to pay for the preschool education from taking their children to preschool before enrolling them in class one. It is against this background

that this study sought to find out the contribution of preschool educational experience to learning at lower primary. Specifically, the study was set to find out if there was any difference in overall performance of children with and without preschool education in Mathematics, English and Science over the three years in primary public schools in Mauche Division Nakuru County Kenya.

2. Methodology

This study adopted a mixed methods strategy. Quantitative data was also collected from the score sheets and mark lists for term examinations. It was then analyzed by calculating the means for each subject per term, per year and calculating totals for the entire lower primary cycle. The current study was undertaken in Mauche Division in Njoro sub-county, Nakuru County Kenya. Mauche Division is a densely populated area occupied by peasant farmers of different socio-economic backgrounds. Majority of them are of low level of education. There is also low enrollment in preschools in comparison to enrollment in class one. This discrepancy in terms of numbers enrolled in preschool as compared to those in class one prompts one to ask if in this area parents doubt the influence and value of preschool education.

In this study the target population was 44799 lower primary school children attending school in njoro sub-county in the period 2013 to 2015. The teachers' population was 752 teachers and 87 head teachers. The accessible population was 2160 lower primary school children, 150 teachers and 18 head teachers in 18 public schools in Mauche Division. Purposive sampling was used to choose children who were in class four in the six sampled schools totaling to 720 pupils of whom 10% was used according to (Mugenda and Mugenda 2003). From this population 72 pupils were randomly sampled, 18 teachers were purposively sampled while from a total of 18 head teachers six from participating schools were involved. Questionnaires, mark lists and interview schedules were also used to gather the required information from the teachers. Data collected for this study was analyzed using both descriptive and inferential statistics. Quantitative data was analyzed by calculating the means for each subject per term, per year and also by calculating the totals for the entire lower primary cycle and was presented in graphs and tables. Qualitative data was collected from teachers and head teachers through questionnaires and interview schedules which was organized thematically and coded well for analysis. The information was then presented using tables and figures.

3. Results

3.1 Background Information of Respondents

Majority of lower primary school teachers who participated were female (n=15) compared to male (n=9). The lower primary school (classes 1-3) pupils under study comprised 50-50% gender composition of each of the two categories.

With reference to educational levels of teachers 7 were P1 holders, 13 Diploma holders and 4 had certificate in ECDE.

3.2 Analysis per Subject Performance of Pupils with and Without Preschool

The researcher in this case analyzed the data with a view to establishing how performance between children with and without preschool educational experience was with reference to individual subjects. The means for three subjects (Mathematics, English and Science) were calculated for the sampled pupils over the three year period for children with and without preschool education. It is also important to note that all numbers in the figures were rounded off to a whole number.

3.2.1. Analysis of Mathematics performance for pupils with and without preschool education per year.

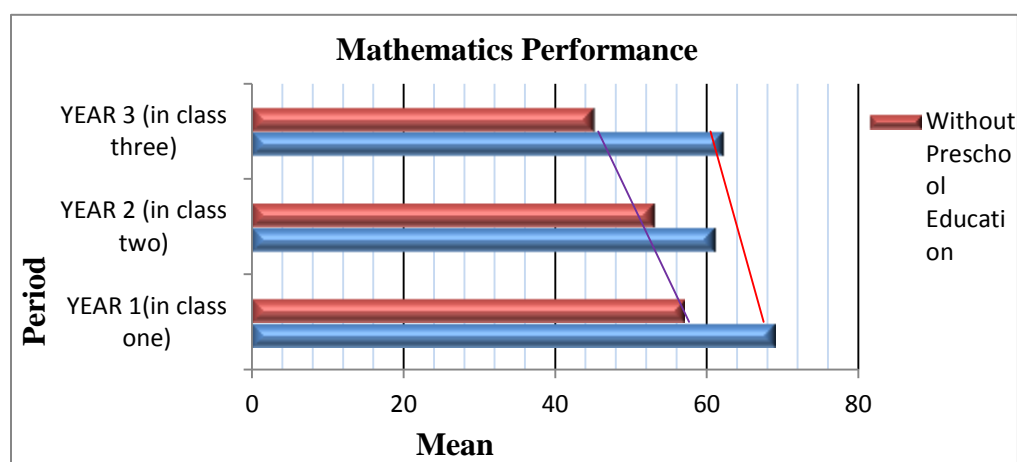


Figure 1: Mathematics performance for pupils with and without preschool education in three years period of study.

From figure 1 above it indicates that Mathematics was well performed by both children with and without preschool education. However children with preschool education outperformed children without in year one, two and three. There was a difference of 12, 8 and 17 in performance in year one, two and three respectively. Those without preschool education showed a downward drop in performance each year from 57 in the first year down to 45 in the third year. Those with dropped from 69 to 61 and a slight rise from 61 to 62 in the third year.

4.3.2. Analysis of English subject performance for pupils with and without preschool education.

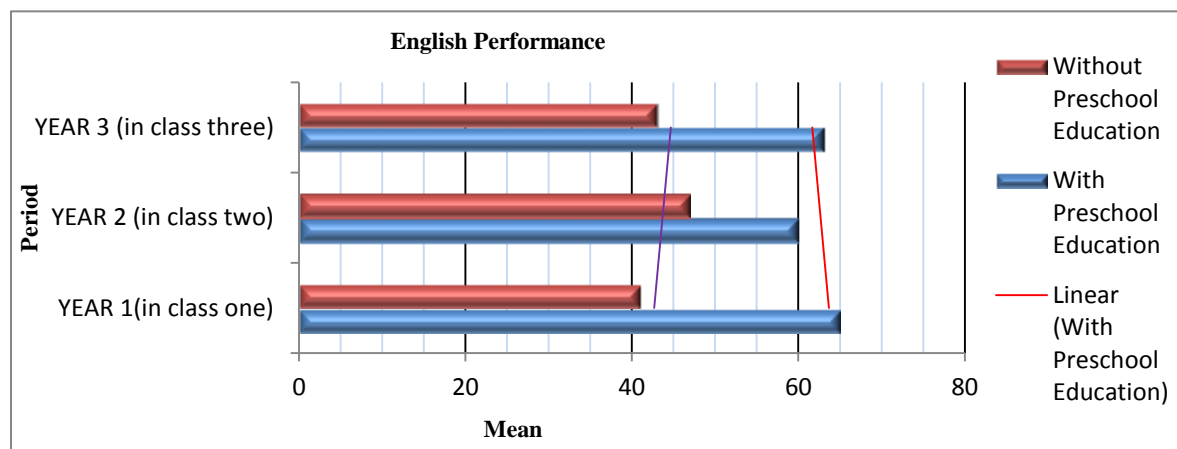


Figure 2: English subject performance for pupils with and without preschool education in three years period of study.

Figure 2 above show that Performance in English by Children with preschool education posted an impressive performance in year one, two and three with a mean of 60 and above while those without performed dismally. In year one the mean was 41 rising to 47 in year two and dropping again to 43 in year three. However even though their counterparts showed a downward trend, they led with a slight improvement in their third year. This might be due to increase in new vocabularies which they never learned earlier at preschool.

4.3.3. Analysis of Science subject performance for pupils with and without preschool education.

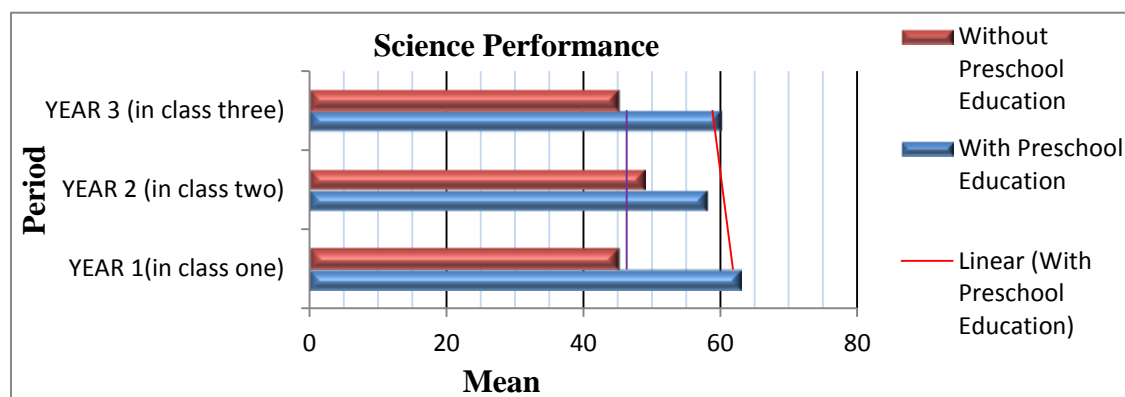


Figure 3: Science subject performance for pupils with and without preschool education in three years period of study.

The above figure indicate that performance In Science by children with preschool education staged another startling performance of a mean of 63 in year one, 58 in year two and 60 in year three while their counterparts performed below average in each year.

There was a constant trend of performance by those without preschool education with a slight improvement in class two while their counterparts witnessed a slight improvement in their third year of study at lower primary.

4.3.4 Overall performance by subject

The researcher sought to determine the general trend exhibited by subject performance of each category of pupils under study and their difference for each term through the three years period. The data distribution is as shown in Figure 6 below

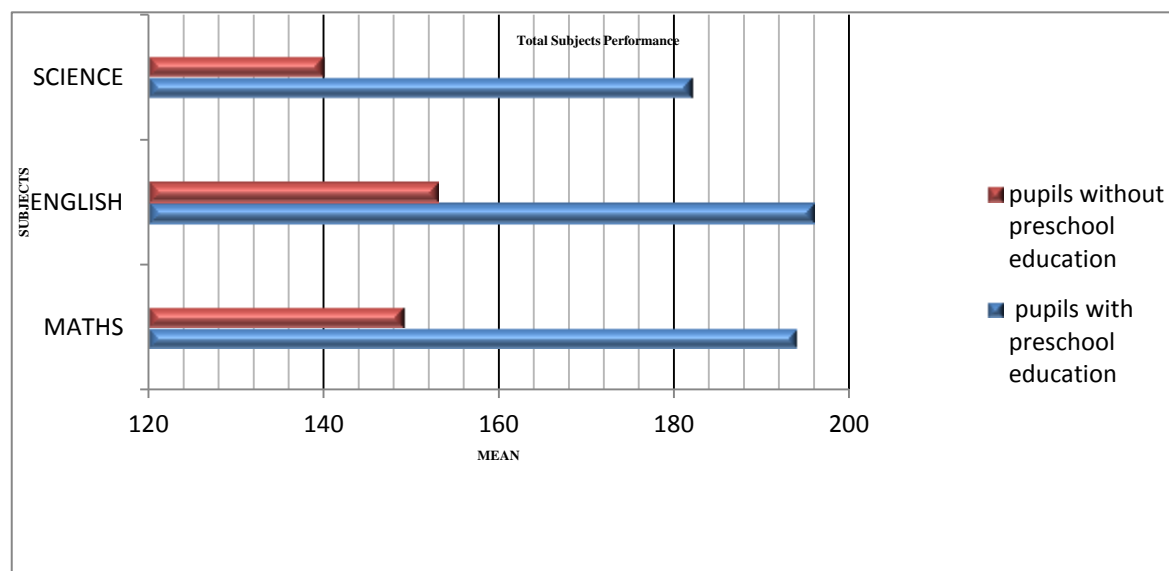


Figure 4: Total per performance of pupils with and without preschool education in the three subjects

From figure 6 above it showed that Subject wise performance for the entire period indicate that pupils with preschool education posted a mean of 194 in Mathematics while those without posted a total mean of 149 thus a difference of 45 In English those with preschool education had a mean of 196 and those without preschool education having a mean of 153 and a difference of 42. While in science those with had a mean of 182 and those without a mean of 140 and hence a difference of 42.

From the figure above it can be deduced that pupils with preschool education are generally better in all the three subjects for three years ranging from the highest mark of 69% in Mathematics in the first year to the lowest subject, Science with 58% in the second year compared to those without preschool education which ranges from the lowest mark of 41% in English in the first year and the highest of 57% in the same year.

These results confirms that in the three subjects preschool educational experiences had impacted in one way or another on the children who had gone through the nursery and that those who had skipped may have been experiencing a few challenges as they went on with their school life in class one, two and three. This is supported by Murray and Harrison 2011; Bowes 2009, who stated that children who enter school with marked differences in cognitive and learning needed for success in school environment, perform well academically.

4.4 Overall Yearly Performance of Pupils with and without Preschool Education for Three Years.

To find out if there was a difference in performance between children with and without preschool educational experience, total marks scored for three subjects (Mathematics, English and Science) were calculated for termly examination and the annual (three-term) average per pupil taken by the sampled boys and girl over the three year period. The finding presented in Figure 5 below indicates the general performance for the two categories of pupils and the difference.

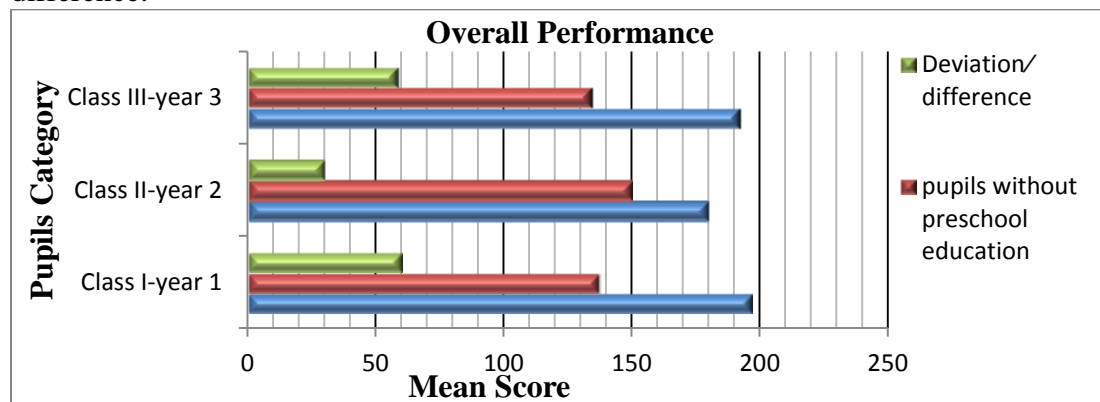


Figure 5: Three-year total mean score performance for pupils with and without preschool education for three subjects

From figure 5 above it is clear that in year one the difference in performance in the three subjects collectively posted a deviation of 60 which dropped to 30 and then rise to 58 in year three. Seemingly while those without appeared to be closing the gap those with preschool educational experiences opened the gap in year three by 58 indicating that they were becoming better and better having had a foundation which their counterparts missed. This is supported by Goodman and Sienesi 2005 which found that Preschool education yielded a large improvement in cognitive tests at age 7 and remained significant throughout the schooling years, up to age 16.

4.5 Termly Performance in Three Subjects for pupils with and Without Preschool Education for Three Years.

To find out if there were significant changes in performance on termly basis indicated that as children without preschool educational experiences became increasingly familiar with school

life. Termly performance in the three subject was also analyzed the results and findings were as below.

4.5.1: Termly performance during the first year of study in Class One

Data presented in Figure 6 below shows the findings of termly performance for pupils in their first year in lower primary school.

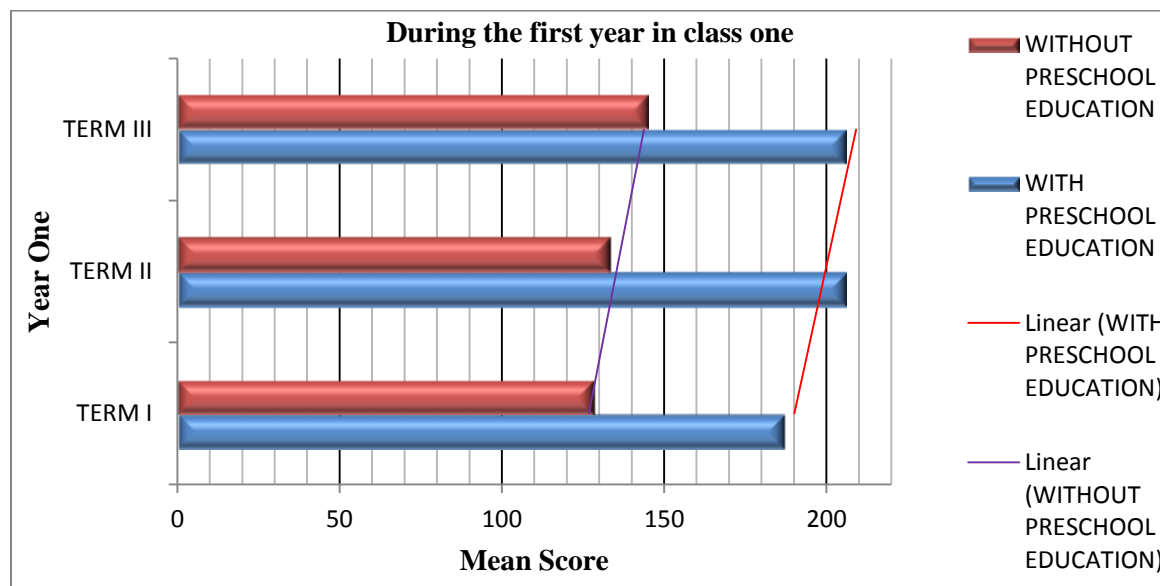


Figure 6: Termly performance during the first year of study

In reference to figure 6 above learners with preschool education performed better than their counterparts in all the three terms. However the gap between the two categories was least during their first term in class one with a deviation of (59.) and higher in the second term with (73). However an upward trend in their performance was observed for the two groups. It implies that preschool education acquires learners with skills necessary for primary school life which is also supported by Jacinta 2015 study which noted that children who attended ECE maintained academic performance advantage over children who had not.

4.5.2: Termly performance during the second year of study in Class Two

Data presented in Figure 7 below indicates the findings of termly performance for pupils in their second year in lower primary school.

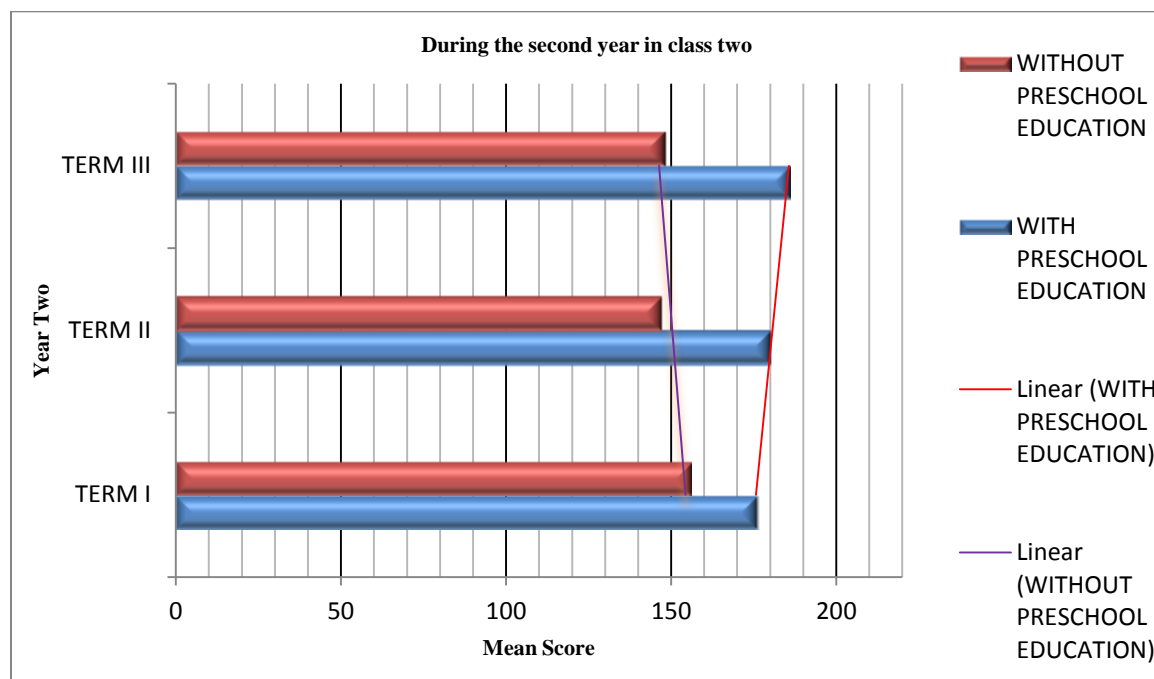


Figure 7: Termly performance during the second year of study

From the findings indicated in Figure 7 above shows that termly performance in year two by the two categories of pupils indicate a drop at the beginning of each term as compared to the previous third term followed by a steady rise in the preceding years. It also revealed that children with preschool educational experience maintained an upward mobility outshining their counterpart throughout their second year. But their counterparts maintained a downward trend. This is due to the step they skipped in education ladder hence lacking basic concepts to better cope with lower primary school tasks. The gap between the two categories was generally smaller in term one compared to the previous years; pupils without preschool education improved as they gained more knowledge. The gap however increased in second and third term. This is due to the acquisition of basic skills.

4.5.3: Termly performance during the third year of study in Class Three.

Data presented in Figure 8 below shows the total termly performance for learners in their third year of study for the three subjects in lower primary school.

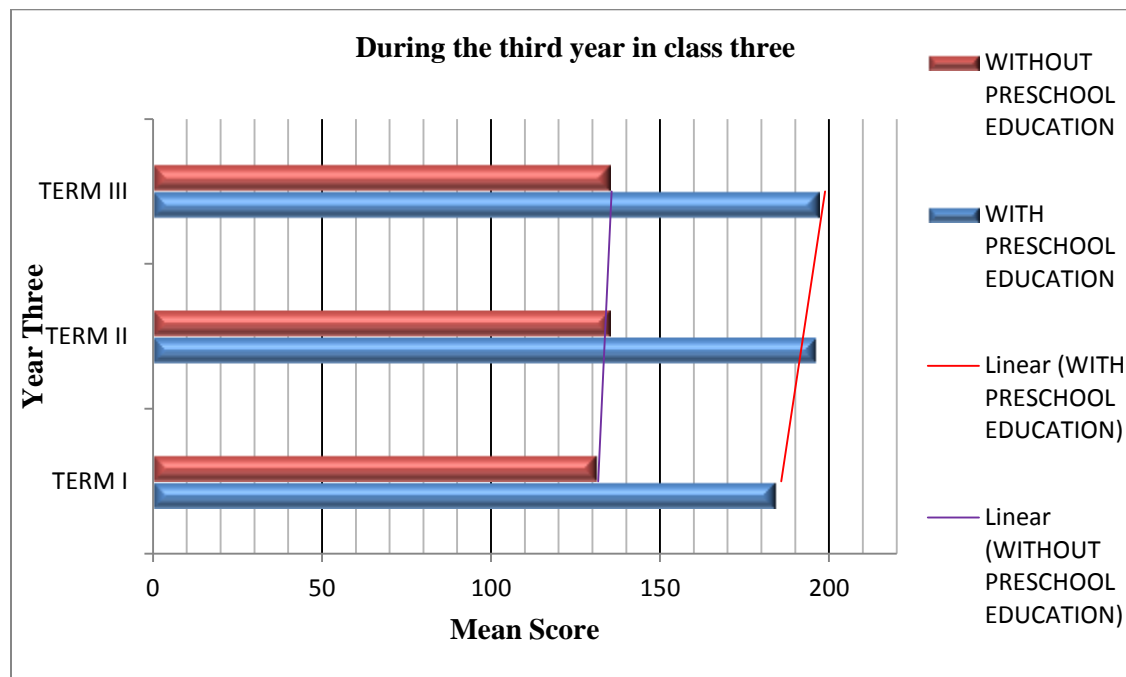


Figure 8: Termly performance during the third year of study

Data presented in figure 8 above show that termly performance in year three posted a drop by the two categories at their first term as compared to the previous year third term. Pupils with preschool education continued outperforming those without with the gap between the two groups increasing throughout the three terms in the year. The trend line of performance indicated that pupil with preschool education improved at a notably higher rate compared to their counterparts due to the acquisition of basic skills in preschool. Meaning that knowledge acquired in preschool had impact in their third year of study at primary school. This is also supported by a literature by Belinski and Galiliani 2006 indicating that one year of early childhood education increased average third grade test scores by 8% of mean or by 23% of the standard deviation of the distribution of test scores.

5. Discussion

The overall findings reveal that children with preschool education led in all the three subjects studied per term and per year. Analysis that was conducted on data collected from termly mean scores indicated a clear cut difference in performance with children from preschool leading while those without preschool education lagging behind and kept improving in the first 3 terms, as they struggled to be at par with their counterparts but ended up dropping in the 5th and 7th term consecutively. This is supported by Murray and Harrison 2011; Bowes 2009, who stated that children who enter school with marked differences in cognitive and learning needed for success in school environment, perform well academically. These results confirms that in the

three subjects preschool educational experiences had impacted in one way or another on the children who had gone through the nursery and that those who had skipped may have been experiencing a few challenges as they went on with their school life in class one, two and three.

In terms of subject performance the gap in performance was still witnessed between the two groups which revealed that those with preschool education outshone those without in all the subjects for three years consecutively with the best performed subject being Mathematics.

From the findings per subject it can be deduced that pupils with preschool education are generally better in all the three subjects in all the three years ranging from the highest mark of 69% in Mathematics in the first year to the lowest subject, Science with 58% in the second year compared to those without preschool education which ranges from the lowest mark of 41% in English in the first year and the highest of 57% in the same year.

In addition they also differed in basic literacy and overall academic performance. In English the group without preschool education had a rising trend although there was a drop in the third year. However Science was performed poorly by the two categories. The best performed subject among the pupils with preschool education was English which their counterparts performed best too. Both groups performed least in Science subject with a mean total of 182 for those with preschool education and 140 for those without.

It can be deduced that pupils with preschool education are generally better in all the three subjects in all the three years ranging from subject performance, termly performance and annual performance score. This shows that early childhood represents a window of opportunity for a lifetime development of a person (UNESCO, 2010). This is the time when children's brains development advances at a pace greater than any other stage in life.

The gap of performance tend to widen at the beginning for the first three terms then the gap tend to close for the next three terms then it open up again this time wider than before. This shows that with time those with preschool education are becoming better and better having had a good foundation at preschool which the others missed. This finding agrees again with the findings of (Jacinta 2015) who said that Children who had attended ECE maintained academic performance advantage over children who had not. It was also noted that children who had attended ECE have higher literacy and subject achievement scores in primary school. They also had better attitudes toward learning and school than peers who did not receive early childhood education prior to primary school entry (Ramey 2000).

6. Conclusion

The study sought to explain the performance gap between children with preschool education and those without a case of Mauche Division, Njoro Sub-County, Nakuru County, Kenya. From the findings and discussions the following conclusion was made: Various issues were discussed and it was found that preschool education plays a great role in academic performance among lower primary school children and contributes to good academic performance as was seen from the findings. There was also a difference in basic literacy between children with preschool education

and those without in their academic performance. Preschool education is very vital in the academic life of a child as it can be seen by the difference in their academic performance of children with preschool education and those without. This shows that preschool education provide pre-requisite skill necessary which make learning easier and faster. Children with preschool education performed better than those without in all the three subjects studied in all the three years. The gap of performance keep widening between the two groups. This shows that with time those with preschool education are becoming better and better having had a good foundation at preschool which their counterparts missed.

Those coming directly from home have to learn the basics first unless one is genius or may have acquired preschool experiences at home from other siblings. Therefore stakeholders in the education sector should take preschool education seriously as the best opportunity to lay the foundations for a child's future

The study recommends that education policy development and implementation should closely focus on monitoring ECD through relevant authorities. This is aimed at ensuring 100% enrolment and retention of children of age in preschool education. In addition infrastructural improvement on ECD learning facilities should be done in order to equip schools with the necessary teaching and learning materials to make the environment attractive and conducive for both learners and trainers.

The government should further improve enrolment to pre-school by providing incentives such as school feeding programmed this will solve the enrolment and retention problem of ECDE children. On the same note, ECD teachers' terms of service should be improved. Moreover School Administrators should effect ECDE curriculum implementation, closely monitor and conduct community outreach for better participation in ECDE programmes such as enrolling their children and even building of classrooms.

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