

**EFFECT OF SCHOOL FEEDING PROGRAMME ON THE PRE-SCHOOL
CHILDREN'S PERFORMANCE IN NUMBER WORK ACTIVITIES IN KENYA
A CASE STUDY OF MUFU ZONE, EMBU COUNTY**

BY

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Award of the Degree of Master of Education in Early Childhood Education in the
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DECLARATION

This research project is my original work and has not been presented for the award of any degree in any other university.

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This research project has been submitted with my approval as the university supervisor

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DEDICATION

I dedicate this research work to my husband, Benedict Njagi, our children Helen, Elias, Teresia, Lynnete and my sister Rosanna for their continued encouragement which made this work successful.

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I wish to extend my sincere gratitude to my supervisor Mr Timothy Maonga for his dedication and commitment in assisting and guiding me throughout the project. I also wish to express the same to all lecturers who gave me valuable support in the initial stages of writing my project. My thanks and appreciation also goes to my head teacher for his co-operation and outstanding support and the teachers and children during the data collection. Finally, I would also like to appreciate the participation of my fellow students as peer readers of my proposal and also cautioning me on the necessary changes I had to make.

ABSTRACT

This research study sought to determine the impact of the School Feeding Programme (SFP) on performance of pre-school children in number work activities. It sought to discover the nature of SFP in Mufu Zone, and to establish its effects on performance of pre-scholars in the district. The target population of this study was 56 public schools in Mufu Zone from which a random sample of 28 public schools which had pre-schools was selected. Ex-postfactor research design was used to carry out the study. The study used both primary and secondary data. Primary data was collected using questionnaires while secondary data consisted of report forms of the pre-school learners. Questionnaires included structured and unstructured questions and were administered through drop-and-pick method to the head teachers and teachers. Report forms of pre-scholars for the last two terms of the year 2015 were collected to help analyse the performance the pre-schools sampled in the study. Data collected was organized according to the sample studied and the Statistical Package for Social Sciences (SPSS) version 20 was used to analyse it, using descriptive statistics and correlations. Using the Pearson Correlation Coefficient, a strong positive correlation was established at 0.01 level of significance, between performance, type of food, frequency, and amount of food offered. The study found that school meals are a good way to channel vital nourishment to the children which in turn helps promote the children's performance. This was realized as good performance was reflected in schools with the feeding programme.

TABLE OF CONTENTS

	Page
DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES.....	vii
LIST OF TABLES.....	viii
LIST OF ABBREVIATIONS AND ACRONYMS.....	.ix
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background to the Study.....	1
1.2 Statement of the Problem.....	2
1.3 Purpose of the Study.....	2
1.4 Objectives of the Study.....	2
1.5 Research Questions.....	2
1.6 Significance of the Study.....	3
1.7 Limitations of the Study.....	3
1.8 Delimitations of the Study.....	3
1.9 Basic Assumptions of the Study.....	4
1.10 Operational Definition of Terms.....	4
1.11 Organisation of the Study.....	4
CHAPTER TWO: LITERATURE REVIEW.....	6
2.1 Introduction.....	6
2.2 An Overview of School Feeding Programme.....	6
2.3 Effects of School Feeding Programs on Performance.....	9
2.3.1 Cognition Improvement and Alleviation of Hunger.....	9
2.3.2 Improvement of Attendance and Enrolment.....	10
2.3.3 Micronutrient Deficiency and Learning Improvement.....	12
2.4 Theoretical Framework.....	13
2.4.1 Maslow’s Hierarchy of Human Needs.....	13
2.5 Conceptual Framework.....	15
CHAPTER THREE: METHODOLOGY.....	16
3.1 Introduction.....	16
3.2 Research Design.....	16

3.3 Target Population.....	16
3.4 Sample Size and Sampling Techniques.....	16
3.5 Research Instruments.....	17
3.5.1 Questionnaires for Head Teachers.....	17
3.5.2 Questionnaire for the Teachers.....	17
3.5.3 Validity of Instruments.....	17
3.5.4 Reliability of Study Instrument.....	18
3.6 Data Collection Procedures.....	19
3.7 Data Analysis.....	19
CHAPTER FOUR: FINDINGS, DISCUSSION AND INTERPRETATION.....	21
4.1 Introduction.....	21
4.2 Demographic Information.....	21
4.2.1 Head Teachers.....	21
4.2.2 Teachers.....	23
4.3 Nature of School Feeding Programme.....	25
4.3.1 Existence of School Feeding Programme.....	25
4.3.2 Types of Meals.....	25
4.3.3 Amount of Food Offered.....	26
4.3.4 Frequency of Food Offered.....	27
4.4 Effects of School Feeding Programme on the Performance of Pre-scholars.....	27
4.4.1 Correlation between type of food offered and the performance.....	28
4.4.2 Correlation between amount of food and performance.....	28
4.4.3 Correlation between frequency of meals and performance.....	29
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	31
5.1 Introduction.....	31
5.2 Summary of Findings.....	31
5.3 Conclusion.....	32
5.4 Recommendations.....	32
5.5 Recommendations for Further Studies.....	33
REFERENCES.....	34
APPENDICES.....	38
Appendix I: Head teachers Questionnaire.....	38
Appendix II: ECD Teacher's Questionnaire.....	42
Appendix III: Number work Activities.....	45
NURSERY.....	47

LIST OF FIGURES

	Page
Figure 2.1: Conceptual framework.....	15
Figure 4.1: Duration of Service in the Present Station	22
Figure 4.2: Duration of Service in the Present Station (teachers)	24

LIST OF TABLES

	Page
Table 1.1: A Balanced Diet Meal.....	1
Table 4.1: Duration of service in the present station	22
Table 4.2: Respondents' Age	23
Table 4.3: Respondents' Teaching Experience	24
Table 4.4: Types of food offered.....	25
Table 4.5: Amount of food offered.....	26
Table 4.6: Frequency of food offered.....	27
Table 4.7: Descriptive statistics for overall performance.....	27
Table 4.8: Correlation between type of food offered and the performance.....	28
Table 4.9: Correlation between amount of food offered and the performance.....	28
Table 4.10: Correlation between frequency of food offered and the performance.....	29

LIST ABBREVIATIONS AND ACRONYMS

ECCD: Early Children Care and Development

SFP: School Feeding Programme

PEM: Protein Energy Malnutrition

ECE: Early Childhood Education

NGO: Non-Governmental Organisation

WFP: World Food Programme

ECDE: Early Childhood Development and Education

UNESCO: United Nation Education, Scientific and Cultural Programme

WHO: World Health Organisation

KIE: Kenya Institute of Education

FAO: Food and Agricultural Organisation

UNO: United Nations Organisation

KANU: Kenya African National Union

ROK: Republic Of Kenya.

MOEST: Ministry of Education, science and Technology.

ASAL: Arid and Semi-Arid Lands.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Malnutrition is considered a risk factor in the educational future of children and should be a major concern for health, nutrition and educational policies (Pollit 1998). Infant mortality rate in Kenya in 1996 was 76%, where some children died directly as a result of malnutrition. These surveys found out that in up to six months of age, Kenyan children grow well. Thereafter, apparently, growth starts to slow down. This paints a gloomy picture, especially toward the future of Early Childhood Care and Development (ECCD), as it is known that this growth is prevalent within the pre-school system in the country hence has serious development implications.

Table 1.1: A Balanced Diet Meal

Food Group	Nutrients and Example of Foods
Energy Giving Foods	Foods that provide carbohydrates like rice, Bread and potatoes.
Body Building Foods	Foods that provide proteins like meat, beans and milk.
Protective Foods	Foods that provide vitamins and minerals like cabbage, spinach and fruits.

Retention and performance are serious issues of focus for the Government of Kenya. Food has been acknowledged as life and a power in activating people's life as well as supporting various areas of child development, which is dependent upon correct amount and quality. This fact has not been fully embraced within pre-schools in Mufu Zone. Most public pre-schools in Mufu Zone enroll children from disadvantaged households. These children suffer from hunger and malnutrition, due to their poor socio-economic backgrounds. Studies in other areas showed that hungry children tire easily and this handicaps their mental, physical, emotional growth and development. Glewwe and Hanan (1994) established that SFP is a valuable instrument for

stimulating enrolment and establishing attendance as well. It also helps to enhance learning performance because of the regular attendance.

1.2 Statement of the Problem

From the above background it has been noted that there is a relationship between school feeding programme and school attendance. Studies also have shown that school attendance has the great influence on performance. It's of great importance that a study on parameter of SFP and pre-school children performance should be carried out. No such study has been done in Mufu Zone of Embu County. Therefore this study investigated the effect of school feeding programme on performance of pre-school learners in pre-school activities.

1.3 Purpose of the Study

The purpose of the study is to relate the following parameter of the school feeding programme to performance in number work activities. The parameters are the frequency of feeding programme, type of food and the amount of food offered.

1.4 Objectives of the Study

- 1) Determine the effect of the frequency of SFP on pre-school performance in number work activities.
- 2) Establish the effect of the type of food and pre-school performance in number work activities.
- 3) Find out the effect of the amount of food given to learner and their performance in number work activities.

1.5 Research Questions

- 1) What is the effect of the frequency of giving of food to the pre-school children's performance in number work activities?

- 2) What is the effect of the type of food and pre-school children's performance in number work activities?
- 3) What is the effect of the amount of food and the pre-school children's performance in number work activities?

1.6 Significance of the Study

This study may be of significance to the education sector in Kenya. The findings of the study may be used to provide information to the feeding programme managers or sponsors on the effective implementation and management of SFP. The study may also assist the head teachers, teachers and others involved in the feeding programme to identify the type and amount of food that would be beneficial to pre-scholar's health and the eventual impact on performance. The study may also guide parents, teachers and the community on the ways of starting and maintaining a feeding programme at the pre-school which will motivate teachers to succeed in school. It may also provide general knowledge on the impact of SFP on this performance of pre-school children and enhance performance and consistent learning in pre-school, as children health will be addressed. The findings may also help the ministry of education to improve ways of learning and managing pre-schools in Kenya.

1.7 Limitations of the Study

Results of the study can only be generalized and applied to areas with similar characteristics of pre-schools in Mufu zone.

1.8 Delimitations of the Study

The study focused on the impact of SEP on the performance of pre-school learners in Mufu zone, Embu County. The study was carried out in pre-schools attached to public schools in the county, which is in Embu East –sub-county in Embu County. The respondents include head teachers, and children in the pre-schools.

1.9 Basic Assumptions of the Study

The study assumed that the target group would be willing to volunteer information and respond honestly to the questions asked by the researcher. There were qualified human resource and sufficient facilities to effect SFP and the programme was on-going. It was assumed that there was proper instructional supervision in the pre-schools.

1.10 Operational Definition of Terms.

Effect: Positive or negative impact of the feeding programme towards the learners.

School feeding programme: This is a scheduled activity of providing a balanced diet in school.

Pre-school children: This involves children of between age 0-6 years

Performance: This is determined by the scores in number work activities

Frequency of SFP: Number days in a week that the food is given to the learners as well as the number of times it is given in a day.

Amount of food: The measure of food for instance the number of spoons served.

1.11 Organisation of the Study

The study is organized into five chapters. Chapter one is introduction. This chapter covers what the report entails. These are the objectives, background to the study, statement of the problem, significance, purpose of the study, research objectives and questions, limitations and delimitations of the study, assumptions and operational definition of terms. Chapter two comprises of literature review on the effect of school feeding programme on performance, the chapter also includes the theoretical framework of the study as well as the conceptual framework. Chapter three covers the research methodology consisting of research design, target population, sampling procedure and sample size, research

instruments, validity and reliability of the instruments, procedure for data collection and data analysis. Chapter four consists of result findings, data analysis and interpretation while chapter five has the summary of the study findings, conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter emphasis was on the impact of school feeding programme on the performance of the pre-school children. This section dealt with an overview of SFP with proper nutrition and reviewed related factors such as higher enrolment, attendance rate, good health, increased participation, attention in class and prevention of hunger, using literature to support them.

2.2 An Overview of School Feeding Programme

A feeding programme is a scheduled activity of providing enough nutrition and balanced diet to a selected group of people. It is a laid down schedule for a school to give food to children to enhance learning and other activities. In order to encourage good performance, a good feeding programme should be there to encourage enrolment and attendance and discourage dropout, provide the child with the right food for health and strength, sustain learning process in children through encouraging participation and concentration, and prevent children from feeling hungry while at school. Hungry children cannot pay attention in class (Mitchell et al., 1999).

Levinger (1989) says that SFPs make a difference in enrolment and attendance of children to school. The programme also helps poor families by giving their children a good meal each day and thus saving family food. It has been documented that food insecurity as a result of limited household resources has been associated with hyperactivity and aggression as well as withdrawn behaviours among school-age children. Children who come from families where food availability may be limited are also more likely to have difficulty socializing at school, have a greater chance of being suspended and have higher needs for counselling and special education services. SFPs cannot be expected to make a direct measurable contribution to combating malnutrition among school children. The focus is on school feedings role in maximising children's learning capacity through the relief of short-term hunger, and thus improving performance.

The national school feeding programme was founded in 1967 guided by the philosophy 'A hungry child cannot learn. It was mainly using locally produced foods from the national cereals and produce board. However, this programme alone could not meet the demands for feeding programs in the country. Thus, the government encouraged development partners to join in and assist in this venture. The WFP is among the various development partners who have been very supportive in this area (Republic of Kenya and UNICEF, 1994). In 1981, WFP and the Government of Kenya started a school feeding programme, which was a joint venture. Its long term objective was to help Kenya achieve universal primary education (UPE) in the ASAL regions. Food assistance through this programme is channelled to both the pre-schools and Pre-schools. The immediate objectives of this programme were to maintain regular attendance rates in the schools, increase attention span of learners through provision of school meal, increase enrolment in pre-schools and Pre-schools.

Nutritional and health status are powerful influences on a child's learning and on how well a child performs in school. Children who lack certain nutrients in their diet (particularly iron and iodine), or who suffer from protein-energy malnutrition, hunger, parasitic infections or other diseases, do not have the same potential for learning as healthy and well-nourished children. Weak health and poor nutrition among school-age children diminish their cognitive development either through physiological changes or by reducing their ability to participate in learning experiences - or both. Contrary to conventional wisdom, nutritional status does not improve with age. The extra demands on school-age children (to perform chores, for example, or walk long distances to school) create a need for energy that is much greater than that of younger children. Indeed available data indicate high levels of protein-energy malnutrition and short-term hunger among school-age children. Moreover, deficiencies of critical nutrients such as iodine, vitamin A and iron among the school aged are pervasive (Partnership for Child Development, 1998b). It is estimated that 60 million school-age children suffer from iodine deficiency disorders and that

another 85 million are at risk for acute respiratory disease and other infections because they are deficient in vitamin A. The number suffering from iron deficiency anaemia is greater still – 210 million. Parasitic worms that infect the intestines or the blood are a major source of disease and malnutrition in school-age children. An estimated 320 million school-age children are infected with roundworm, 233 million with whipworm, and 239 million with hookworm (Partnership for Child Development, 1997a). Schistosomiasis affects an estimated 200 million people throughout the world, approximately 88 million of whom are under 15 years old. Poor nutrition and health among schoolchildren contributes to the inefficiency of the educational system. Children with diminished cognitive abilities and sensory impairments naturally perform less well and are more likely to repeat grades and to drop out of school than children who are not impaired; they also enrol in school at a later age, if at all, and finish fewer years of schooling. The irregular school attendance of malnourished and unhealthy children is one of the key factors in poor performance. Even temporary hunger, common in children who are not fed before going to school, can have an adverse effect on learning. Children who are hungry have more difficulty concentrating and performing complex tasks, even if otherwise well nourished. Research and program experience shows that improving nutrition and health can lead to better performance, fewer repeated grades and reduced drop out.

Eating too much food and less healthy types of food, coupled with low levels of physical activity can lead to weight gain in children, youth and adults. However, not eating enough food can also have negative effects on a child's development, learning capacity and behaviour. A well balanced diet that includes a variety of foods throughout the day, in portion sizes that are appropriate for a child's age and sex can help support academic success. Consuming less healthy foods particularly at a young age has been linked to increased absenteeism from school as well as lower levels of education completed in adulthood.

The food choices that students make are more heavily based on their choices and preferences and what is available to them. Students who consume balanced and nutritious foods perform better in areas of participation, behaviour, attendance and get their assigned tasks done more completely than students who do not eat well.

2.3 Effects of School Feeding Programs on Performance

SFPs are one of several interventions that can address some of the nutrition and health problems of school-age children. SFPs, and other school-based nutrition and health programs, can also motivate parents to enrol their children in school and to see that they attend regularly.

2.3.1 Cognition Improvement and Alleviation of Hunger

The number of hungry school-age children is unknown, but is likely to be a significant problem in various circumstances. Many factors contribute to hunger in school children; the long distances children have to travel to school, cultural meal practices that include no or small breakfasts or a lack of family time or resources to provide adequate meals to children before and/or during the school day. Simply alleviating this hunger in schoolchildren helps them to perform better in school. In Jamaica, providing breakfast to primary school students significantly increased attendance and arithmetic scores. A US study showed the benefits of providing breakfast to disadvantaged primary school students. Before the start of a school breakfast programme, eligible (low-income) children scored significantly lower on achievement tests than those not eligible. Once in the programme, however, the test scores of the children participating in the programme improved more than the scores of non-participants. The attendance of participating children also improved (Meyers, 1989). Eating breakfast positively influences several measures of academic performance including short term cognition, mathematics scores, tests of memory and creativity and physical endurance. The greatest positive impact of taking breakfast seems to be on students who are at nutritional risk. Eating breakfast has been linked to improved overall health and well-

being of school-aged children and improvement in overall diet quality that also contributes to stronger academic performance.

In Peru, 23 malnourished and 29 well-nourished nine to eleven-year-old boys were studied to assess the effects of breakfast on cognitive performance. Each boy served as his own control in a manner comparable to the Jamaica study cited above. Breakfast was a nutritionally fortified beverage and a baked grain product fortified with iron, similar to the meal provided in the government-sponsored school breakfast programme. A series of cognitive tests were administered in an experimental setting. Speed in performing a short-term memory test and discrimination of geometric patterns were improved under the breakfast condition in both groups. The effect was more pronounced in the nutritionally disadvantaged children (Pollitt, Jacoby and Cueto, 1994). In a study carried out on Albertan and Canadian children and youth, it was found that good nutrition contributes to healthy growth and development, chronic disease prevention, strong school performance and positive behaviour. Consumption of less healthy foods has been associated with poorer achievement in core language and math courses. This happens when children lack important nutrients needed to support optimum cognitive functioning.

2.3.2 Improvement of Attendance and Enrolment

Children in poor health start school later in life or not at all. A study in Nepal found that the probability of attending school was 5% for stunted children versus 27% for children of normal nutritional status (Moock and Leslie, 1986). In Ghana, malnourished children entered school at a later age and completed fewer years of school than better nourished children (Glewwe and Jacoby, 1994). The number of days that a child attends school is related to cognition and performance. SFPs can have a positive effect on rates of enrolment and attendance. A recent evaluation of an on-going school feeding program in Burkina Faso found that school canteens were associated with increased school enrolment, regular attendance, consistently lower repeater rates, lower dropout rates in disadvantaged provinces, and higher success rates on national exams,

especially among girls (Moore, 1994). A small pilot school feeding programme in Malawi was evaluated for its effect on enrolment and attendance. Over a three month period there was a 5% increase in enrolment and up to 36% improvement in attendance/absenteeism compared to control schools over the same period (WFP, 1996). Niger has one of the five lowest school enrolment rates in the world; the school feeding programme is intended to enhance attendance of nomad and transhumant families, particularly of girls. Beneficiaries receive the equivalent of the total daily recommended food intake (2,079kcal) in three meals per day. In addition, as an incentive for girls' participation in schools, some families receive an additional take-home ration. Evidence from past experience with the SFP shows that it contributes to its objectives: Whenever canteens have been closed, even provisionally, immediate and high absenteeism follows and children are withdrawn from school. In areas with nomadic and transhumant populations, the school year cannot commence until food stocks arrive (WFP, 1995; 1996). Although not a school feeding programme in the traditional sense, school-based food distribution has also been used successfully to improve enrolment and attendance among school-age children, particularly girls. In Bangladesh, a programme of school-based food distribution increased enrolment by 20% versus a 2% decline in non-participating schools (Ahmed and Billah, 1994). In Pakistan, a programme provides an income transfer in the form of one or two tins of oil to families whose girls attend school for 20 days per month. In its pilot phase, the oil incentive programme demonstrated that it could make a significant contribution to full attendance. In participating schools enrolment improved by 76% compared to 14% in the province overall. Attendance increased from 73% to 95% among participants. The programme also claims to put additional food into the hands of mothers and to serve as a contact between mothers and teachers on distribution days (WFP, 1995; 1996). These food transfer mechanisms do not offer the same potential benefits, for example, meeting short-term hunger and specific nutritional needs, as programmes that deliver food directly to beneficiaries. These kinds of programmes should, therefore, be assessed within the context of

other food and resource transfer programmes. A detailed discussion of the range of options from food stamps, coupons and vouchers to a cash transfer for food can be found in the design.

2.3.3 Micronutrient Deficiency and Learning Improvement

Deficiencies of iron and iodine are among the most harmful types of malnutrition with regard to cognition. Iron deficiency renders children listless, inattentive and uninterested in learning. The research literature suggests a causal link between iron deficiency anaemia and less than optimal behaviour for learning (Nokes, van den Bosch and Bundy, 1998). According to the study done on Albertan and Canadian children and youth, iron deficiencies, particularly when severe enough to cause anaemia, has been associated with poorer cognition, shortened attention span, fatigue and significantly lower scores on standardized math tests. Poor performance on a wide range of achievement tests among iron deficient children in school has been consistently documented. Remediation of iron deficiency through supplementation has eliminated the differences in school performance and Intelligence Quotient (IQ) scores between school children previously deficient in iron and those without iron deficiencies. In the case of iodine, most studies have focused on the differences in cognitive test performance between children who lived in communities with and without endemic goitre. The results show differences in favour of the non-goitre areas. In Sicily, for example, the proportion of children with below-normal cognitive scores was 3% in areas with sufficient iodine, 18.5% in areas where iodine was inadequate, and 19.3% where iodine was inadequate and cretinism was endemic. Studies in Indonesia and Spain have documented similar effects on children in areas with insufficient iodine (Bleichrodt et al, 1987). Fortification of school rations is the most efficient and effective route to alleviating micronutrient deficiencies in schoolchildren where SFPs are in operation.

In South Africa, soup fortified with iron and vitamin C was provided to 350 schools in an area of low socio-economic development on the Cape Peninsula. Results showed that initially 12% of six to seven year old and 20% of eight to 12-year-old children had low weight-for-age, and 49% and

31% had low serum ferritin (a measure of iron deficiency) respectively. At follow-up, after 15 weeks of intervention, iron status improved significantly; falling from 49% to 28% in six to seven-year-old children and 31% to 21% in eight to 12- year-old children (Kruger and Badenhorst, 1994). A relatively new breakfast programme in Peru, which includes an iron-fortified ration, was evaluated for its short-term impact on diet, amongst other factors. The programme significantly increased dietary intakes of energy by 25%, protein by 28% and iron by 46% (Jacoby and Pollitt, 1994). A case-control study of the impact of providing hemi-fortified cookies to school children in Chile found higher concentrations of haemoglobin among children receiving the fortified cookies through the school lunch programme. The impact was most significant among children with greater demands for iron such as post-menarchial girls and pubertal boys (Walter and Hertrampf et al, 1993).

2.4 Theoretical Framework

This study was guided by the human needs theory of Abraham Maslow (1943). According to this theory, there are certain minimum requirements that are essential to decent standards of living. These are known as physiological needs. They include food, shelter, health and clothing. They are primary needs and have to be catered for before other needs such as security and shelter, sense of belonging and affection, love, esteem and finally self-actualization are pursued. Maslow proposed that man's drive towards certain direction can be arranged in a hierarchical order according to his needs as follows.

2.4.1 Maslow's Hierarchy of Human Needs

The first level of physiological needs is the needs that everyone needs on a daily basis for survival and includes basic needs like food, shelter and clothing. The second level is that of security of the self and of the physiological needs. The third level is of social need, which is a need to belong to a certain group or association. This includes friendship, love and belonging. The fourth level is that of self-esteem which is a sense of self-respect and self-motivation. It also includes how one may

relate to other people. The last level is of self-actualization, whereby man strives towards a viable experience and personal growth. Maslow says that a human being goes through a hierarchy needs starting with physical needs for example food to much higher needs for example emotions. For a child to achieve this, care givers for example teachers or parents should ensure that they provide nutritious foods to the child in order to have a healthy growth. Safety and security needs are referred to as freedom from fear and anxiety and also protection from emotional harm.

Children should be provided with safety and security so as to do well in school and even at home. Failure to provide security creates discontentment. The social needs include love and belonging where children should be acceptable and provided with friendship. The self-esteem needs are the prestige needs whereby one feels he/she wants to be recognised. This makes children feel proud of themselves. The utmost need is the self-actualisation, which is the motive to become all that a person is able to be. This requires self-drive so as to achieve the goal one desires.

According to Maslow's hierarchy of needs, it demonstrates that when needs are met or fulfilled, pupils are generally happy and contented. The atmosphere in the school is good and learning goes on smoothly. The reverse is true in that when the needs are not met or fulfilled there is discontentment.

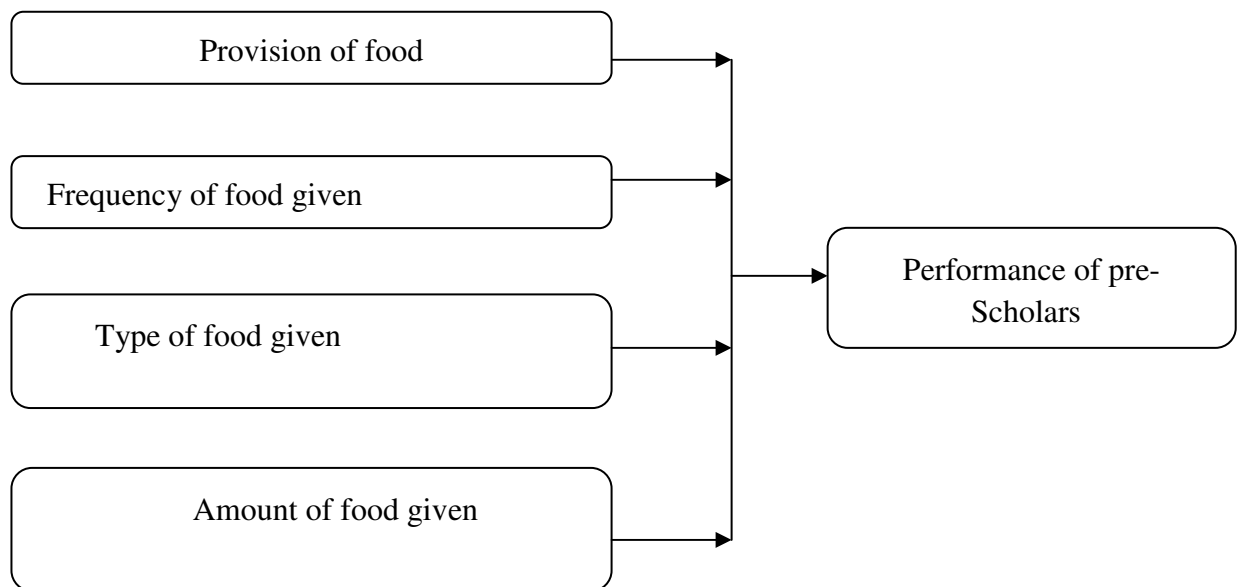
This model highlights the importance of food provision and security. From a broader view of development, it means that countries must also struggle to provide basic needs for use by their population. For a developing country like Kenya, it means that poverty must be prevented by making basic needs like food, clothing and shelter available to all citizens. Since man cannot survive without food, the government should make an effort to reduce food insecurity, especially amongst vulnerable groups like children. Where food aid is available for instance in schools through school feeding programmes, it will encourage good health, high motivation, participation,

attention in class and will obviously reduce hunger. It should be properly monitored to ensure it assists the children (King, 1966).

2.5 Conceptual Framework

This study was motivated to investigate the impact of SFP on performance of pre-school children in Mufu Zone. In the conceptual framework the performance of pre- scholars depends on: Sustained learning process in children, student enrolment and class attendance. Children are prevented from hunger and participate and concentrate in learning.

Figure 2.1: Conceptual Framework



Source: (Author, 2015)

CHAPTER THREE: METHODOLOGY

3.1 Introduction

In this chapter, the study discussed the following; research design, target population, sample size and sampling techniques, reliability, validity, data collection techniques and data analysis.

3.2 Research Design

The study adopted the ex-post facto research. This is a kind of research whereby the research establishes the impact of the independent variable on the dependent variable. This therefore indicates that the research cannot manipulate the feeding programme. The study also adopted questionnaires as the method of data collection. The research believes that the method will give information which is more comprehensive and valuable for the study or to the research carried out.

3.3 Target Population

According to Mugenda and Mugenda (1999) target population is the group of individual's events or objects which a researcher wants to generalize the results of the study. The target population includes all public pre-schools, head teachers, teachers, and children.

3.4 Sample Size and Sampling Techniques

The research sampled pre-school head teachers, teachers, and children in ECDE centres. According to Mugenda and Mugenda (1999), this method of sampling involves giving a number to every object or member of the accessible population, placing the numbers at random. The subjects corresponding to the number picked are included in the samples. This ensures that each and every member of the population has an equal and independent chance of being selected. Random sampling made sure that the population was represented and the

results can be generated on the population. The researcher selected twenty eight head teachers and sixty eight teachers.

3.5 Research Instruments

The study used primary and secondary data. The major instrument for collecting data from the respondents were questionnaires .A questionnaire is a set of questions to which the researcher expects the respondents to answer mainly in written form .Two types of question items were used in through questionnaires that are close ended questions and open ended questions. The open ended questions were used in an effect to conserve time and money. Opinion was indicated in the provided spaces. The close-ended questions were used so as to encourage the head teachers to give an in-depth and felt response without feeling hold back in revealing information. Secondary data on performance of the learners in number wok activities was obtained from their report forms for first and second terms of the year 2015.

3.5.1 Questionnaires for Head Teachers

The questionnaire is found in Appendix 1. The head teachers' questionnaire consisted of twenty five questions that the head teachers were expected to answer mainly in written form. The questions answered how the feeding programme operates and what its advantages are as well as its disadvantages .Questionnaires also answered on how children are enrolled. The questionnaires formulated specific questions out of the research questions from which relevant data was obtained.

3.5.2 Questionnaire for the Teachers

The questionnaires are found in Appendix II and the questionnaires contained nineteen academic items.

3.5.3 Validity of Instruments

Validity according to Mugenda and Mugenda (1999) is the accuracy, meaningfulness and the degree with which results obtained from the analysis of data actually represent the phenomenon of the study. In the order to determine the validity of the instrument before administration of the questionnaires the researcher presented them to the supervisor for analysis and critique. This helped the researcher to rectify and come up with good reliable instruments and also to ensure credibility of the results.

3.5.4 Reliability of Study Instrument

Reliability refers to the degree of consistency between two or more instruments addressing the same problem after a repeated trial (Mugenda and Mugenda, 1999). The reliability of an instrument can be established through test-retest technique whereby a researcher prepares an instrument which he/she administers. After sometime, the same instruments are administered to the same participant. Then the findings of the first and second administration are compared. If the findings tend to agree, then the instrument is taken to be reliable (Mugenda and Mugenda, 1999). The researcher calculates a co-relation coefficient of the two administrations.

Reliability can also be tested using the split-half technique where the research instrument is spilt into two sections. The two sections focus on the same thing but in different ways and are thus treated as two different instruments. Correlation is done between the two in order to test the coefficient. If it lies between 0.7 and 0.9 then the instrument is said to be reliable. The other way to test for reliability is to use the parallel technique where the researcher uses several instruments which are administered at different times. All the instruments focus on the same thing and if the responses agree then the various instruments are regarded as reliable (Mugenda and Mugenda, 1999). In order to achieve reliability, the researcher used the inter data observer technique whereby an observation schedule is

prepared. Different observations are done by different observers. If the different observers agree on what they observed then the observation schedules are regarded to be reliable.

3.6 Data Collection Procedures

The research visited the education office in Mufu Zone to seek permission from the assistant education officer and the same from her head teacher then visited the pre-schools during the learning sessions. The researcher administered the questionnaires to the respondent head teachers and teachers. There was allowance of one day for the collection of the questionnaires which gave the respondents ample time to complete filling. After this period, the findings from the questionnaires were put under lock and key for confidential purposes. The whole information given by each respondent was put together and recorded down accordingly for interpretation and analysis.

3.7 Data Analysis

Data analysis is a very important step in research. During this step, the researcher had to edit the data to ensure that there is completeness. The data was then organized, coded and analysed using descriptive statistics and correlation. The researcher was able to make some quantification to the responses in terms of frequencies, correlations and percentages. This was done with the aid of Statistical Software for Social Scientists (SPSS) version 20. This helped summarize and describe variables such as performance, frequency of meals offered, the type and the amount of food served. The results were then presented using tables and charts. Correlation was also done on the variables under study so as to evaluate the strength of the relationship between the dependent and independent variables.

The dependent variable was performance of the pre-school children in number work activities which was an average of their scores for the first and second term of 2015. The independent variables were; the type of food given in schools that had a feeding programme, the frequency of the feeding programme, and the amount of food served. The

types of food included breakfast, mid-morning snack, lunch and a fruit after lunch which was varying across different schools. The amount was in terms of servings of lunch where some schools served two spoons while others served only one spoon per child. The frequency was in terms of the number of times in a week the children were given food in school and was therefore presented in terms of number of days in a week. The dependent variable was correlated against the independent variables using SPSS version 20 and the interpretation of the Pearson Correlation co-efficients was done. Coefficient values that lie between 0.5 and 1 indicate a moderate to strong positive correlation among the variables while those that are less than 0.5 but greater than 0 indicate a weak positive correlation (Mugenda and Mugenda, 1999). Negative correlation co-efficients indicate negative correlation between variables.

CHAPTER FOUR: FINDINGS, DISCUSSION AND INTERPRETATION

4.1 Introduction

This chapter consists of data findings, discussion, presentation and interpretation. The topic of research was to investigate the impact of SFP on performance of pre-scholars in Mufu Zone. Descriptive statistics and correlations were used in order to help achieve the research objectives. The target population for this study comprised of head teachers of public pre-schools, teachers, and pre-scholars in the Zone.

Simple random sampling was used to select two teachers from each school for interviews. One head teacher from each school was selected. The response rate was found to be 78% for head teachers and 100% for teachers. This indicated that 28 head teachers and 56 teachers of the sample population were able to successfully fill and return the questionnaires to the researcher. The reason for this was because the researcher adopted the school visiting method which was effective since most pre-scholars and teachers liked the interviews thus the response was likely to be good. The data collected was analysed using the Statistical Package for Social Sciences (SPSS) version 20 and the output presented in form of tables, and pie charts. The research made use of frequencies, percentages, and correlations to interpret the information.

4.2 Demographic Information

In this section, the researcher analysed the gender, age, number of years in the present station of head teachers, and teachers.

4.2.1 Head Teachers

The researcher was interested in knowing the gender, age, and number of years in the present station for the head teachers, and presence of ECD section. The researcher found out that all head teachers were female whose age was 31 years and above for 15% with majority being 41 years and above (85%). Out of all the respondents 57% had a teaching experience of 6-10 years while

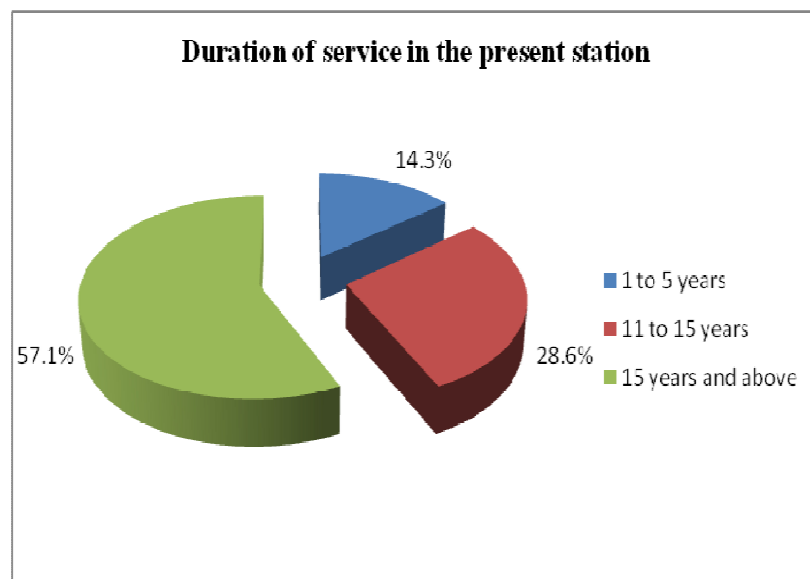
43% had a teaching experience of 11 to 15 years. Table 4.1 below gives the duration of the head teachers at the current station.

Table 4.1: Duration of service in the present station

	Frequency	Percent
1-5yrs	4	14.3
11-15 yrs	8	28.6
15 and above	16	57.1
Total	28	100.0

From table 4.1 above majority of the head teachers had been in the present station for 15 years and above. This is given by 57.1% of all respondents. They were followed by 28.6% of the respondents who had been in present station for 11-15 years. The least (14.3%) had been in the present station for 1-5 years. Figure 4.1 also shows the respondents' duration of service in the present station.

Figure 4.1: Duration of Service in the Present Station



In the same area, all respondents confirmed their pre-school had an ECD section which enrolled both boys and girls.

4.2.2 Teachers

The researcher was interested in knowing the gender, age, teaching experience, number of years in the present station for the teachers, number of ECD learners the teachers have in a class and whether the teachers are trained ECD Teachers. The researcher found that all teachers were female. Out of all respondent teachers, 31% were between 31 to 40 years, 32.4% were 40 years and above, while only 12.5% were between 23-30 years. This indicated that majority of the teachers were above 31 years of age. Table 4.2 below demonstrates the findings.

Table 4.2: Respondents' Age

	Frequency	Percent
23-30 years	7	12.5
31-40years	31	55.35
40 and above	18	32.14
Total	56	100.0

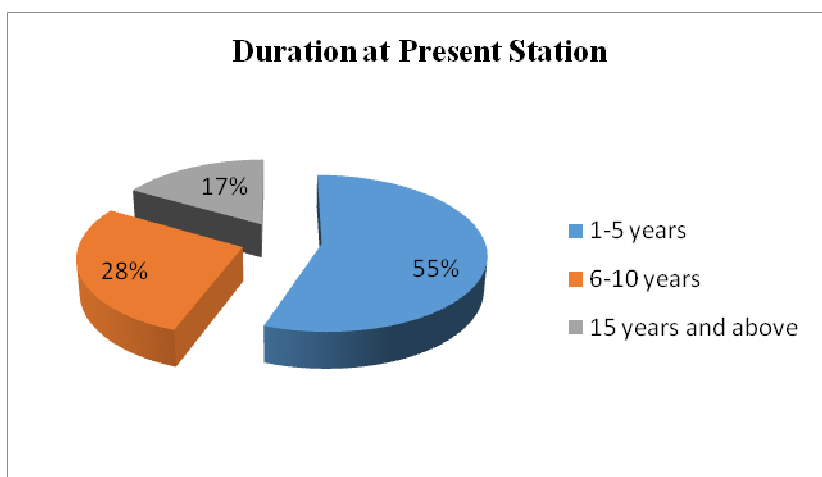
The researcher also found out that, out of all respondent teachers, 66.7% had a teaching experience of 11 to 15 years, 16.7% had an experience of six to 10 years and another 16.7% had an experience of 15 years and above. This implied that majority of the respondent teachers had a teaching experience of 11 to 15 years. It could have been as a result of their age which indicated they had been working for long. Table 4.3 below gives the same finding.

Table 4.3: Respondents' Teaching Experience

	Frequency	Percent
6-10 years	11	16.7
11-15 years	45	66.7
15 years and above	12	16.7
Total	68	100.0

Further in this area the researcher noted that 55.6% of the respondent teachers had been in their present stations for a period between one to five years, 27.8% had been in service in the present station for a period between six to ten years, while only 16.7% were in their present stations for 15 years and above. Therefore, majority of the respondent teachers had been in their present stations for a period between one to five years. Figure 4.2 show the findings.

Figure 4.2: Duration of Service in the Present Station (teachers)



In another area, all teachers indicated that they had between 55 and 75 ECD learners in their pre-schools. The ratio of boys to girls was 1:1 indicating that the numbers of girls equalled the

numbers of boys. This indicated there was no discrimination in ECD learning programme in this area. Also it was important to note that all ECD teachers were trained in early childhood education.

4.3 Nature of School Feeding Programme

In regard to the nature of SFP, the researcher wanted to know if they existed, the amount of food served to the learners, types of food, the frequency of the food programme in terms of number of days in a week, and how the children are served.

4.3.1 Existence of School Feeding Programme

In this regard, the researcher found out that all the schools had a feeding programme. Out of these schools, 71.4% had the programme for a period of one to five years, while only 28.6% had for a period of six to ten years. This implied that the idea of SFP had not been practiced for long.

4.3.2 Types of Meals

The researcher sought to find out the various types of food offered in the schools under study.

The results are presented in table 4.5.

Table 4.4 Types of food offered

	Frequency	Percent
Special package	6	21.4
Normal package	8	28.57
lunch alone	8	28.57
Porridge alone	6	21.4
Total	28	100.0

The researcher found out that 21.4% of the schools had a special package that consisted of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with

vegetables) and a fruit after lunch. 28.57% of the head teachers responded that they offered a normal package consisting of a nutritious breakfast of porridge, lunch (ugali/rice served with vegetables) and a fruit after lunch. 28.57% of the respondents said that they offered lunch alone without breakfast, snack or fruit while 21.4% said that they offered only porridge. All the respondents indicated that the person who cooked was an employed community member and that the children were served by the cook. All the respondent schools with a collaborative programme noted that they ask parents to contribute toward a common meal.

Further the researcher noted that the teachers normally met with the head teacher and discussed how to make the feeding programme better. Their meeting was done occasionally and they discussed issues to deal with, meal times, food serving, how the meals were prepared, need for additional of facilities and to give any feedback on the programme as conveyed by the pre-scholars. They all agreed that the meetings had an impact on the feeding programme where the issues discussed were looked into to improve the programme performance in delivering service and the quality of meals. They also conveyed the feedback to WFP.

4.3.3 Amount of Food Offered

The researcher sought to find out the various amounts of lunch the schools offered in terms of the servings. The results are presented in table 4.7.

Table 4.5: Amount of food offered

	Frequency	Per cent
1 serving spoon	15	53.57
2 serving spoon	13	46.4
Total	28	100.0

From the findings, 53.57% said they offer 1 serving while 46.4% said that they offer 2 servings.

4.3.4 Frequency of Food Offered

The researcher sought to find out the frequency of the feeding programme in terms of number of days in a week. The results are presented in table 4.8.

Table 4.6: Frequency of food offered

	Frequency	Percent
1 day	2	7
2 days	3	10.71
3 days	6	21.42
4 days	7	25
5 days	10	35.7
Total	28	100.0

7% of the respondents indicated that they offer food to the pre-school learners 1 day in a week, 10.71% said that they offer the food for 2 days in a week, 21.42% said they offered the food for 3 days in a week while 25% said that they give food for 4 days in week. The majority of the respondents, 35.7%, said that they offer the food for 5 days in a week.

4.4 Effects of School Feeding Programme on the Performance of Pre-scholars

Table 4.7: Descriptive statistics for overall performance

	N	Minimum	Maximum	Mean	Std. Deviation
Overall performance in number work activities	28	70.00	95.00	84.2778	6.86685
Valid N (listwise)	28				

Overall, the maximum score for the pre-school learners' performance in number work activities in all the sampled schools was 95%, the minimum score was 70% while the mean was 84.2778%. The standard deviation was found to be 6.866685.

4.4.1 Correlation between type of food offered and the performance

Table 4.8: Correlation between type of food offered and the performance

		Mean mark
Type of food	Pearson Correlation	0.856
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the type of food offered in the schools under study and the mean performance of the learners at 0.01 level of significance. The Pearson Correlation co-efficient was 0.856 which showed that there exists a strong positive correlation between the type of food offered and the performance of the pre-school learners.

4.4.2 Correlation between amount of food and performance

Table 4.9: Correlation between amount of food offered and the performance

		Mean mark
Amount of food	Pearson Correlation	0.832
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the amount of food offered and the mean performance of the learners in the sampled pre-schools at 0.01 level of significance. The Pearson Correlation co-efficient was 0.832 which showed that there exists a strong positive correlation between the type of food offered and the performance of the pre-school learners.

4.4.3 Correlation between frequency of meals and performance

Table 4.10: Correlation between frequency of food offered and the performance

		Mean mark
Days in a week	Pearson Correlation	0.812
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the frequency of the feeding programme and the mean performance of the learners in the sampled pre-schools at 0.01 level of significance.

The Pearson Correlation co-efficient was 0.812 and this showed that there exists a strong positive correlation between the frequency of the feeding programme and the performance of the pre-school learners.

In the area of performance, the respondent head teachers from the schools in the feeding programme confirmed that there had been an increasing trend in performance with many pre-scholars being attentive in class. However, one of the pre-schools performances was constant and sometimes going in a low trend but it was attributed to other factors like poor classrooms and family related issues.

It was noted from the findings that the type of meals offered as well as the number of servings impacted on performance whereby the schools that offered a special package of breakfast, mid-morning snack, lunch and fruit for 5 days a week recorded the highest performance level.

All the teachers from the schools offering the feeding programme further graded their school feeding programme as good and all respondent teachers noted the effects of the feeding programme on performance as good. This indicated that the feeding programme had a positive impact on performance. This was further supported by the fact that children's participation in

activities before meals was slow and there was poor concentration as opposed to participation after meals where concentration was good and the children were jovial. The children's favourite meal was ugali and porridge.

According to the teachers, their role as far as the feeding programme is concerned is to ensure that children are taken care of adequately since this affects their class work. Also they work as intermediaries between the children and head teachers. They also indicated that they recommend which meals to be given to children and that they check on quality service delivery among the cooks. The respondents noted that the child's performance had been on the increase mainly because the children were comfortable.

The findings from majority of the teachers were that in the morning, the children looked happy to be in the school, although they looked pale. This could have been due to lack of breakfast in the morning and poor diet in their evening meals. Some hours before meal the children looked jovial and were in a hurry to leave the classrooms. Some respondent teachers had noted children fighting and making irregular queues to be served first. The best moments were in the afternoon after the meals where the children looked happy and satisfied and concentrated in class. However, some pupils were said to engage themselves in play and slept peacefully in the afternoon.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on objectives of the study which were to determine the effects of the feeding programme on the performance of pre-scholars in number work activities.

5.2 Summary of Findings

The researcher wanted to know the frequency of the feeding programme in a week, the types of food given to the school children and how the food was served.

The study found out that all the schools had a school feeding programme. However, out of all the respondent schools, 71.4% had the programme for a period of one to five years, while only 28.6% had for a period of six to ten years. This implied that the idea of SFP was not practiced for long.

It was also found that the maximum score for the pre-school learners in number work activities was 95%, the minimum score was 70%, and the standard deviation was 6.867 while the mean score was 84.28%. In terms of type of food; the schools that offered the special package of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with vegetables) and a fruit after lunch performed better than the normal package of porridge, lunch and a fruit, those offering lunch alone or porridge alone. The mean performance of those who offered two servings of lunch was higher than that of the learners who were given only 1 serving of lunch. In terms of frequency, the researcher noted that the schools that offered food to the learners for 5 days a week performed better

than those that offered the meals for 4, 3,2 and 1 day(s) a week. From the correlation results, it was noted that the independent variables namely; type of food, amount and frequency of the SFP recording a correlation co-efficient of between 0.81 and 0.85 which indicated a strong positive correlation with the performance of the pre-scholars in number work activities.

5.3 Conclusion

Parents were called for a meeting to create awareness concerning the SFP, whereby each child was represented by his/her parent. This study concludes that the school menu in the sampled schools was: special package of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with vegetables) and a fruit after lunch performed or a normal package of porridge, lunch and a fruit, while some were offering lunch alone or porridge alone. Majority of the parents supported the feeding programme by constructing the kitchen, paying the cooks, offering facilities like, spoons, plates, and sufurias, offering materials like firewood, taking part in kitchen cleaning activities and volunteering to serve the children. The overall conclusion of the study is that the types of food, frequency of meals, and amount served have an impact on performance of pre-school children in number work activities in Mufu Zone, Embu County.

5.4 Recommendations

From the findings, the researcher recommends that the schools provide a balanced diet that comprises of carbohydrates, proteins and vitamins. More portions of carbohydrates should be given as these are energy-giving foods that will enable the pre-school children to have enough energy to sustain them in play and this will also help them be attentive in class. Children lacking certain important nutrients from their diet as well as those suffering from protein-energy malnutrition do not learn as effectively as those children that are well-nourished since they are not able to participate in learning experiences. Poor nutrition has been seen to diminish children's cognitive development thereby affecting performance. The

food should also be provided in enough portions so that the children do not become disinterested and withdraw. On frequency, the schools should work on providing food at least 3 times a day as the findings from the study have shown that the schools giving food more frequently record better performance.

5.5 Recommendations for Further Studies

In relation to the findings and the conclusion in this study, the researcher recommends that further studies should be done on the impact of school feeding programme on the performance of pre-school children.

REFERENCES

Ahmed, AU and Billah, K. (1994) *Food for Education Program in Bangladesh: An Early Assessment*. International Food Policy Research Institute, Bangladesh Food Policy Project, Dhaka.

Glewwe, P. and Hanan J. (1994) *An Economic Analysis of Delayed Primary School Enrollment and Childhood Nutrition in Ghana*. LSMS Working Paper 98. World Bank, Washington, D.C.

King, M. (1966). *Medical Care in Developing Countries* London Oxford University Press, London

Levinger, B. (1986). *School Feeding Programmes In Developing Countries*. An Analysis Of Actual and Potential Impact USAID, Washington D.C.

Levinger, B. (1989). *Malnutrition, School Feeding and Education Performance*. UNESCO, Chicago: The University of Chicago Press. 59

Meyers, A., Sampson A., Weitzman M., Rogers B., Kayne H. (1989) *School Breakfast Program and School Performance*. American Journal of Disabled Children Washington DC143:1234-1239

Mitchell, A., Mendez Lindsa S Adair (1999). *Early Growth Stunting Impacts Children Cognitive Development Later In Life* .Toronto

MOEST, (1998). *Master Plan On Education And Training 1997-2010*, Nairobi.

Moore, E. (1994) *Evaluation of the Burkina Faso School Feeding Program*. Catholic Relief Services, Consultant Report. (Unpublished).

Mugenda, O. and Mugenda A. (1999). *Research Methods: Quantitative and Qualitative Approaches* Nairobi: Act Press, Kenya.

Nokes, C., Van de Bosch C., Bundy DAP (1998) *The Effects of Iron Deficiency and Anemia on Mental and Motor Performance, Educational achievement, and behavior in children: An annotated bibliography*. INACG document. Washington, DC:ILSI Press.

Pollit, E. (1998). *Department Of Pediatrics, School Of Medicine, Programme Of International Nutrition University Of California*.

Pollit, P. (1984). *Department Of Behavioral Sciences, University Of California, California*.

Republic of Kenya, (1988). *Report Of The Presidential Working Party On Education And Man- Power Training For The Next Decade And Beyond (Kamunge Report)* Government Press, Nairobi.

Republic of Kenya, (1988). *Report of the Training Review Committee 1988*, Nairobi, Government Press.

UNESCO, (1990). *World Food Programme Handbook Rome UNESCO, Printing Press*.

UNESCO, (1991). *Child Health, Nutrition and School Participation*, Philadelphia: Temple University Press.

Walter, T., Hertrampf R. (1993) *Childhood Malnutrition and Schooling in the Terai Region of Nepal*. *Journal of Development Economics* 20: 33-52.

The University of Chicago Press World Food Programme, (2001). *Global School Feeding Campaign Into School Out Of Hunger* ,WFP, Public Affairs Service, Rome Italy

World Food Programme, (2001). *Operational Contact between the Government of Kenya and the World Food Programme*, Kenya Country Programme, Government press, Nairobi.

APPLICATION LETTER TO THE HEAD TEACHER

University Of Nairobi,
Private Bag,
Nairobi.

The Head Teacher,
Njeruri Primary School,
P.O Box 32,
Runyenjes.

Dear Sir/Madam

REF: PERMISSION TO CARRY OUT RESEARCH STUDY

I, Kamau Ann M, of the above named school is undertaking a Masters course in ECDE at the above named institution.

I wish to inform you that I will be carrying a research study in your pre-school in order to collect information on my study.

Please I hereby request permission to administer a questionnaire to you as the head teacher and to pre-school teachers. Their experience will help me complete my study paper.

I look forward for your positive response.

Thank You
Yours Faithfully,

Kamau Ann M

APPENDICES

Appendix I: Head teachers Questionnaire

Introduction

Please respond to each question by ticking the appropriate response in the spaces provided. Your responses will be completely confidential and will be used by the researcher for the purpose of this study only.

Therefore, do not write your name anywhere in this questionnaire. You're kindly requested to respond to all items applicable to you.

1. Gender

Male []

Female []

2. Age

25 - 30 years []

31 - 40years []

41 and above []

3. Teaching experience

1 - 5yrs [] 6 - 10yrs [] 11- 15yrs [] 15yrs and above []

4. How many years have you been to the present station?

1 - 5yrs [] 6 - 10yrs [] 11- 15yrs [] 15yrs and above []

5. Does your school have an ECD section? Yes [] No []

6. What is the enrolment of ECD learners?

Boys []

Girls []

Total []

7. Is there a feeding programme in the school? _____

8. For how long has the feeding programme been operated?

9. What promoted the need to have a feeding programme in the school?

10. Did you call a parents meeting to create awareness as concerns the school feeding program?_____

If yes, how many parents attended the meeting? _____

11. Who finances the feeding programme?

12. How is the programme organised in your school?

13. For how long has your school been having the school feeding programme?

14. What types of food does the school offer?

Porridge []

Snacks []

Fruits []

15. Who cooks the food?

Employed persons []

Teachers []

Community member []

16. Who serves the children with food?

Cooks [] Teachers []

17. Where are the cooking equipments/utensils kept?

Head teachers office [] School store [] Kitchen []

18. What type of fuel does the school use in cooking?

Paraffin [] Electricity [] Charcoal [] Firewood []

19. Are there children who do not carry food in the pre-schools?

Yes [] No []

If yes how do you cater for their needs?

20. Do you have a school rule asking all the children to carry food?

Yes [] No []

21. How has been the performance trend in your pre-school?

22. How many children were enrolled in pre-school for the last 4 years?

Years	No. of Children	Boys	Girls
2012			
2013			
2014			
2015			

23. How is your school menu?

DAY	BREAK	LUNCH
MONDAY		
TUESDAY		
WEDNESDAY		
THURSDAY		
FRIDAY		

25. How can the problems you face in sustaining the school feeding programme be

Addressed. _____

Thank you for your contribution and co-operation

Appendix II: ECD Teacher's Questionnaire

This questionnaire is meant for the purpose of academic research only. Your opinion will be treated with a lot of confidentiality.

1. Gender

Male [] Female []

2. Age

23 - 30yrs [] 31-40 yrs [] 40 and above []

3. Teaching experience

1-5 yrs [] 6-10 yrs [] 11-15 yrs [] 15 yrs and above []

4. How many years have you been in the present station?

1-5 yrs [] 6-10 yrs [] 11-15 yrs [] 15 yrs and above []

5. How many ECD learners do you have in class?

Boys [] Girls [] Total []

6. Are you a trained ECD Teacher?

Yes [] No []

7. State the impact of feeding programme in your school?

.....

8. Do you normally meet with the head teacher and discuss how to make the school feeding programme better?

Yes [] No []

9. If yes to (8) above, how often

Occasionally [] Often [] Very often []

10. What are some of the issues you discuss in the meetings in relation to school feeding programme and performance?

.....
.....
.....

Do the meetings have any impact towards the feeding programme?

Yes [] No []

11. If yes above (11) how?

.....
.....
.....

12. What challenges do you face in sustaining the feeding programme in your school?

.....
.....
.....

13. How can you grade your school feeding programme?

Very Good [] Good [] Fair [] Poor []

14. What are the effects of feeding programme on performance?

Very Good [] Good [] Fair [] Poor []

15. Comment on children's participation in activities

Before meals

After meals

16. What are children's favourite meals?

17. What is your role as far as school feeding programme is concerned?

.....

18. Comment on the performance of children in pre-school?

.....

19. What do you think can be done to improve the school feeding programme in your school?

.....

Appendix III: Number work Activities

BABY-CLASS

NAME..... DATE

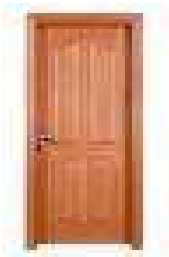
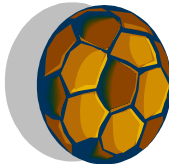
Colour the numbers.



Match the pictures



Read the pictures



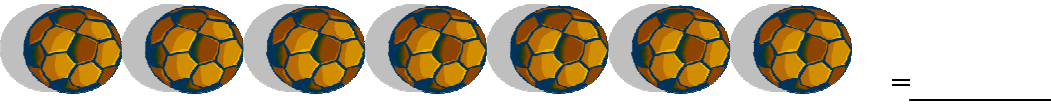
NURSERY

NameDate.....

Write the missing numbers. 1, _____, 3 _____, 5, _____

2, 3, _____, _____, _____

Count



Draw the balls

$3 =$

$7 =$

$2 =$

$4 =$

Add (+)

$2 + 1 =$

$4 + 3 =$

$2 + 2 =$

$5 + 2 =$

Take away (-)

$6 - 4 =$

$7 - 3 =$

$8 - 5 =$

$5 + 2 =$

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Malnutrition is considered a risk factor in the educational future of children and should be a major concern for health, nutrition and educational policies (Pollit 1998). Infant mortality rate in Kenya in 1996 was 76%, where some children died directly as a result of malnutrition. These surveys found out that in up to six months of age, Kenyan children grow well. Thereafter, apparently, growth starts to slow down. This paints a gloomy picture, especially toward the future of Early Childhood Care and Development (ECCD), as it is known that this growth is prevalent within the pre-school system in the country hence has serious development implications.

Table 1.1: A Balanced Diet Meal

Food Group	Nutrients and Example of Foods
Energy Giving Foods	Foods that provide carbohydrates like rice, Bread and potatoes.
Body Building Foods	Foods that provide proteins like meat, beans and milk.
Protective Foods	Foods that provide vitamins and minerals like cabbage, spinach and fruits.

Retention and performance are serious issues of focus for the Government of Kenya. Food has been acknowledged as life and a power in activating people's life as well as supporting various areas of child development, which is dependent upon correct amount and quality. This fact has not been fully embraced within pre-schools in Mufu Zone. Most public pre-schools in Mufu Zone enroll children from disadvantaged households. These children suffer from hunger and malnutrition, due to their poor socio-economic backgrounds. Studies in other areas showed that hungry children tire easily and this handicaps their mental, physical, emotional growth and development. Glewwe and Hanan (1994) established that SFP is a valuable instrument for

stimulating enrolment and establishing attendance as well. It also helps to enhance learning performance because of the regular attendance.

1.2 Statement of the Problem

From the above background it has been noted that there is a relationship between school feeding programme and school attendance. Studies also have shown that school attendance has the great influence on performance. It's of great importance that a study on parameter of SFP and pre-school children performance should be carried out. No such study has been done in Mufu Zone of Embu County. Therefore this study investigated the effect of school feeding programme on performance of pre-school learners in pre-school activities.

1.3 Purpose of the Study

The purpose of the study is to relate the following parameter of the school feeding programme to performance in number work activities. The parameters are the frequency of feeding programme, type of food and the amount of food offered.

1.4 Objectives of the Study

- 1) Determine the effect of the frequency of SFP on pre-school performance in number work activities.
- 2) Establish the effect of the type of food and pre-school performance in number work activities.
- 3) Find out the effect of the amount of food given to learner and their performance in number work activities.

1.5 Research Questions

- 1) What is the effect of the frequency of giving of food to the pre-school children's performance in number work activities?

- 2) What is the effect of the type of food and pre-school children's performance in number work activities?
- 3) What is the effect of the amount of food and the pre-school children's performance in number work activities?

1.6 Significance of the Study

This study may be of significance to the education sector in Kenya. The findings of the study may be used to provide information to the feeding programme managers or sponsors on the effective implementation and management of SFP. The study may also assist the head teachers, teachers and others involved in the feeding programme to identify the type and amount of food that would be beneficial to pre-scholar's health and the eventual impact on performance. The study may also guide parents, teachers and the community on the ways of starting and maintaining a feeding programme at the pre-school which will motivate teachers to succeed in school. It may also provide general knowledge on the impact of SFP on this performance of pre-school children and enhance performance and consistent learning in pre-school, as children health will be addressed. The findings may also help the ministry of education to improve ways of learning and managing pre-schools in Kenya.

1.7 Limitations of the Study

Results of the study can only be generalized and applied to areas with similar characteristics of pre-schools in Mufu zone.

1.8 Delimitations of the Study

The study focused on the impact of SEP on the performance of pre-school learners in Mufu zone, Embu County. The study was carried out in pre-schools attached to public schools in the county, which is in Embu East –sub-county in Embu County. The respondents include head teachers, and children in the pre-schools.

1.9 Basic Assumptions of the Study

The study assumed that the target group would be willing to volunteer information and respond honestly to the questions asked by the researcher. There were qualified human resource and sufficient facilities to effect SFP and the programme was on-going. It was assumed that there was proper instructional supervision in the pre-schools.

1.10 Operational Definition of Terms.

Effect: Positive or negative impact of the feeding programme towards the learners.

School feeding programme: This is a scheduled activity of providing a balanced diet in school.

Pre-school children: This involves children of between age 0-6 years

Performance: This is determined by the scores in number work activities

Frequency of SFP: Number days in a week that the food is given to the learners as well as the number of times it is given in a day.

Amount of food: The measure of food for instance the number of spoons served.

1.11 Organisation of the Study

The study is organized into five chapters. Chapter one is introduction. This chapter covers what the report entails. These are the objectives, background to the study, statement of the problem, significance, purpose of the study, research objectives and questions, limitations and delimitations of the study, assumptions and operational definition of terms. Chapter two comprises of literature review on the effect of school feeding programme on performance, the chapter also includes the theoretical framework of the study as well as the conceptual framework. Chapter three covers the research methodology consisting of research design, target population, sampling procedure and sample size, research

instruments, validity and reliability of the instruments, procedure for data collection and data analysis. Chapter four consists of result findings, data analysis and interpretation while chapter five has the summary of the study findings, conclusions and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter emphasis was on the impact of school feeding programme on the performance of the pre-school children. This section dealt with an overview of SFP with proper nutrition and reviewed related factors such as higher enrolment, attendance rate, good health, increased participation, attention in class and prevention of hunger, using literature to support them.

2.2 An Overview of School Feeding Programme

A feeding programme is a scheduled activity of providing enough nutrition and balanced diet to a selected group of people. It is a laid down schedule for a school to give food to children to enhance learning and other activities. In order to encourage good performance, a good feeding programme should be there to encourage enrolment and attendance and discourage dropout, provide the child with the right food for health and strength, sustain learning process in children through encouraging participation and concentration, and prevent children from feeling hungry while at school. Hungry children cannot pay attention in class (Mitchell et al., 1999).

Levinger (1989) says that SFPs make a difference in enrolment and attendance of children to school. The programme also helps poor families by giving their children a good meal each day and thus saving family food. It has been documented that food insecurity as a result of limited household resources has been associated with hyperactivity and aggression as well as withdrawn behaviours among school-age children. Children who come from families where food availability may be limited are also more likely to have difficulty socializing at school, have a greater chance of being suspended and have higher needs for counselling and special education services. SFPs cannot be expected to make a direct measurable contribution to combating malnutrition among school children. The focus is on school feedings role in maximising children's learning capacity through the relief of short-term hunger, and thus improving performance.

The national school feeding programme was founded in 1967 guided by the philosophy 'A hungry child cannot learn. It was mainly using locally produced foods from the national cereals and produce board. However, this programme alone could not meet the demands for feeding programs in the country. Thus, the government encouraged development partners to join in and assist in this venture. The WFP is among the various development partners who have been very supportive in this area (Republic of Kenya and UNICEF, 1994). In 1981, WFP and the Government of Kenya started a school feeding programme, which was a joint venture. Its long term objective was to help Kenya achieve universal primary education (UPE) in the ASAL regions. Food assistance through this programme is channelled to both the pre-schools and Pre-schools. The immediate objectives of this programme were to maintain regular attendance rates in the schools, increase attention span of learners through provision of school meal, increase enrolment in pre-schools and Pre-schools.

Nutritional and health status are powerful influences on a child's learning and on how well a child performs in school. Children who lack certain nutrients in their diet (particularly iron and iodine), or who suffer from protein-energy malnutrition, hunger, parasitic infections or other diseases, do not have the same potential for learning as healthy and well-nourished children. Weak health and poor nutrition among school-age children diminish their cognitive development either through physiological changes or by reducing their ability to participate in learning experiences - or both. Contrary to conventional wisdom, nutritional status does not improve with age. The extra demands on school-age children (to perform chores, for example, or walk long distances to school) create a need for energy that is much greater than that of younger children. Indeed available data indicate high levels of protein-energy malnutrition and short-term hunger among school-age children. Moreover, deficiencies of critical nutrients such as iodine, vitamin A and iron among the school aged are pervasive (Partnership for Child Development, 1998b). It is estimated that 60 million school-age children suffer from iodine deficiency disorders and that

another 85 million are at risk for acute respiratory disease and other infections because they are deficient in vitamin A. The number suffering from iron deficiency anaemia is greater still – 210 million. Parasitic worms that infect the intestines or the blood are a major source of disease and malnutrition in school-age children. An estimated 320 million school-age children are infected with roundworm, 233 million with whipworm, and 239 million with hookworm (Partnership for Child Development, 1997a). Schistosomiasis affects an estimated 200 million people throughout the world, approximately 88 million of whom are under 15 years old. Poor nutrition and health among schoolchildren contributes to the inefficiency of the educational system. Children with diminished cognitive abilities and sensory impairments naturally perform less well and are more likely to repeat grades and to drop out of school than children who are not impaired; they also enrol in school at a later age, if at all, and finish fewer years of schooling. The irregular school attendance of malnourished and unhealthy children is one of the key factors in poor performance. Even temporary hunger, common in children who are not fed before going to school, can have an adverse effect on learning. Children who are hungry have more difficulty concentrating and performing complex tasks, even if otherwise well nourished. Research and program experience shows that improving nutrition and health can lead to better performance, fewer repeated grades and reduced drop out.

Eating too much food and less healthy types of food, coupled with low levels of physical activity can lead to weight gain in children, youth and adults. However, not eating enough food can also have negative effects on a child's development, learning capacity and behaviour. A well balanced diet that includes a variety of foods throughout the day, in portion sizes that are appropriate for a child's age and sex can help support academic success. Consuming less healthy foods particularly at a young age has been linked to increased absenteeism from school as well as lower levels of education completed in adulthood.

The food choices that students make are more heavily based on their choices and preferences and what is available to them. Students who consume balanced and nutritious foods perform better in areas of participation, behaviour, attendance and get their assigned tasks done more completely than students who do not eat well.

2.3 Effects of School Feeding Programs on Performance

SFPs are one of several interventions that can address some of the nutrition and health problems of school-age children. SFPs, and other school-based nutrition and health programs, can also motivate parents to enrol their children in school and to see that they attend regularly.

2.3.1 Cognition Improvement and Alleviation of Hunger

The number of hungry school-age children is unknown, but is likely to be a significant problem in various circumstances. Many factors contribute to hunger in school children; the long distances children have to travel to school, cultural meal practices that include no or small breakfasts or a lack of family time or resources to provide adequate meals to children before and/or during the school day. Simply alleviating this hunger in schoolchildren helps them to perform better in school. In Jamaica, providing breakfast to primary school students significantly increased attendance and arithmetic scores. A US study showed the benefits of providing breakfast to disadvantaged primary school students. Before the start of a school breakfast programme, eligible (low-income) children scored significantly lower on achievement tests than those not eligible. Once in the programme, however, the test scores of the children participating in the programme improved more than the scores of non-participants. The attendance of participating children also improved (Meyers, 1989). Eating breakfast positively influences several measures of academic performance including short term cognition, mathematics scores, tests of memory and creativity and physical endurance. The greatest positive impact of taking breakfast seems to be on students who are at nutritional risk. Eating breakfast has been linked to improved overall health and well-

being of school-aged children and improvement in overall diet quality that also contributes to stronger academic performance.

In Peru, 23 malnourished and 29 well-nourished nine to eleven-year-old boys were studied to assess the effects of breakfast on cognitive performance. Each boy served as his own control in a manner comparable to the Jamaica study cited above. Breakfast was a nutritionally fortified beverage and a baked grain product fortified with iron, similar to the meal provided in the government-sponsored school breakfast programme. A series of cognitive tests were administered in an experimental setting. Speed in performing a short-term memory test and discrimination of geometric patterns were improved under the breakfast condition in both groups. The effect was more pronounced in the nutritionally disadvantaged children (Pollitt, Jacoby and Cueto, 1994). In a study carried out on Albertan and Canadian children and youth, it was found that good nutrition contributes to healthy growth and development, chronic disease prevention, strong school performance and positive behaviour. Consumption of less healthy foods has been associated with poorer achievement in core language and math courses. This happens when children lack important nutrients needed to support optimum cognitive functioning.

2.3.2 Improvement of Attendance and Enrolment

Children in poor health start school later in life or not at all. A study in Nepal found that the probability of attending school was 5% for stunted children versus 27% for children of normal nutritional status (Moock and Leslie, 1986). In Ghana, malnourished children entered school at a later age and completed fewer years of school than better nourished children (Glewwe and Jacoby, 1994). The number of days that a child attends school is related to cognition and performance. SFPs can have a positive effect on rates of enrolment and attendance. A recent evaluation of an on-going school feeding program in Burkina Faso found that school canteens were associated with increased school enrolment, regular attendance, consistently lower repeater rates, lower dropout rates in disadvantaged provinces, and higher success rates on national exams,

especially among girls (Moore, 1994). A small pilot school feeding programme in Malawi was evaluated for its effect on enrolment and attendance. Over a three month period there was a 5% increase in enrolment and up to 36% improvement in attendance/absenteeism compared to control schools over the same period (WFP, 1996). Niger has one of the five lowest school enrolment rates in the world; the school feeding programme is intended to enhance attendance of nomad and transhumant families, particularly of girls. Beneficiaries receive the equivalent of the total daily recommended food intake (2,079kcal) in three meals per day. In addition, as an incentive for girls' participation in schools, some families receive an additional take-home ration. Evidence from past experience with the SFP shows that it contributes to its objectives: Whenever canteens have been closed, even provisionally, immediate and high absenteeism follows and children are withdrawn from school. In areas with nomadic and transhumant populations, the school year cannot commence until food stocks arrive (WFP, 1995; 1996). Although not a school feeding programme in the traditional sense, school-based food distribution has also been used successfully to improve enrolment and attendance among school-age children, particularly girls. In Bangladesh, a programme of school-based food distribution increased enrolment by 20% versus a 2% decline in non-participating schools (Ahmed and Billah, 1994). In Pakistan, a programme provides an income transfer in the form of one or two tins of oil to families whose girls attend school for 20 days per month. In its pilot phase, the oil incentive programme demonstrated that it could make a significant contribution to full attendance. In participating schools enrolment improved by 76% compared to 14% in the province overall. Attendance increased from 73% to 95% among participants. The programme also claims to put additional food into the hands of mothers and to serve as a contact between mothers and teachers on distribution days (WFP, 1995; 1996). These food transfer mechanisms do not offer the same potential benefits, for example, meeting short-term hunger and specific nutritional needs, as programmes that deliver food directly to beneficiaries. These kinds of programmes should, therefore, be assessed within the context of

other food and resource transfer programmes. A detailed discussion of the range of options from food stamps, coupons and vouchers to a cash transfer for food can be found in the design.

2.3.3 Micronutrient Deficiency and Learning Improvement

Deficiencies of iron and iodine are among the most harmful types of malnutrition with regard to cognition. Iron deficiency renders children listless, inattentive and uninterested in learning. The research literature suggests a causal link between iron deficiency anaemia and less than optimal behaviour for learning (Nokes, van den Bosch and Bundy, 1998). According to the study done on Albertan and Canadian children and youth, iron deficiencies, particularly when severe enough to cause anaemia, has been associated with poorer cognition, shortened attention span, fatigue and significantly lower scores on standardized math tests. Poor performance on a wide range of achievement tests among iron deficient children in school has been consistently documented. Remediation of iron deficiency through supplementation has eliminated the differences in school performance and Intelligence Quotient (IQ) scores between school children previously deficient in iron and those without iron deficiencies. In the case of iodine, most studies have focused on the differences in cognitive test performance between children who lived in communities with and without endemic goitre. The results show differences in favour of the non-goitre areas. In Sicily, for example, the proportion of children with below-normal cognitive scores was 3% in areas with sufficient iodine, 18.5% in areas where iodine was inadequate, and 19.3% where iodine was inadequate and cretinism was endemic. Studies in Indonesia and Spain have documented similar effects on children in areas with insufficient iodine (Bleichrodt et al, 1987). Fortification of school rations is the most efficient and effective route to alleviating micronutrient deficiencies in schoolchildren where SFPs are in operation.

In South Africa, soup fortified with iron and vitamin C was provided to 350 schools in an area of low socio-economic development on the Cape Peninsula. Results showed that initially 12% of six to seven year old and 20% of eight to 12-year-old children had low weight-for-age, and 49% and

31% had low serum ferritin (a measure of iron deficiency) respectively. At follow-up, after 15 weeks of intervention, iron status improved significantly; falling from 49% to 28% in six to seven-year-old children and 31% to 21% in eight to 12- year-old children (Kruger and Badenhorst, 1994). A relatively new breakfast programme in Peru, which includes an iron-fortified ration, was evaluated for its short-term impact on diet, amongst other factors. The programme significantly increased dietary intakes of energy by 25%, protein by 28% and iron by 46% (Jacoby and Pollitt, 1994). A case-control study of the impact of providing hemi-fortified cookies to school children in Chile found higher concentrations of haemoglobin among children receiving the fortified cookies through the school lunch programme. The impact was most significant among children with greater demands for iron such as post-menarchial girls and pubertal boys (Walter and Hertrampf et al, 1993).

2.4 Theoretical Framework

This study was guided by the human needs theory of Abraham Maslow (1943). According to this theory, there are certain minimum requirements that are essential to decent standards of living. These are known as physiological needs. They include food, shelter, health and clothing. They are primary needs and have to be catered for before other needs such as security and shelter, sense of belonging and affection, love, esteem and finally self-actualization are pursued. Maslow proposed that man's drive towards certain direction can be arranged in a hierarchical order according to his needs as follows.

2.4.1 Maslow's Hierarchy of Human Needs

The first level of physiological needs is the needs that everyone needs on a daily basis for survival and includes basic needs like food, shelter and clothing. The second level is that of security of the self and of the physiological needs. The third level is of social need, which is a need to belong to a certain group or association. This includes friendship, love and belonging. The fourth level is that of self-esteem which is a sense of self-respect and self-motivation. It also includes how one may

relate to other people. The last level is of self-actualization, whereby man strives towards a viable experience and personal growth. Maslow says that a human being goes through a hierarchy needs starting with physical needs for example food to much higher needs for example emotions. For a child to achieve this, care givers for example teachers or parents should ensure that they provide nutritious foods to the child in order to have a healthy growth. Safety and security needs are referred to as freedom from fear and anxiety and also protection from emotional harm.

Children should be provided with safety and security so as to do well in school and even at home. Failure to provide security creates discontentment. The social needs include love and belonging where children should be acceptable and provided with friendship. The self-esteem needs are the prestige needs whereby one feels he/she wants to be recognised. This makes children feel proud of themselves. The utmost need is the self-actualisation, which is the motive to become all that a person is able to be. This requires self-drive so as to achieve the goal one desires.

According to Maslow's hierarchy of needs, it demonstrates that when needs are met or fulfilled, pupils are generally happy and contented. The atmosphere in the school is good and learning goes on smoothly. The reverse is true in that when the needs are not met or fulfilled there is discontentment.

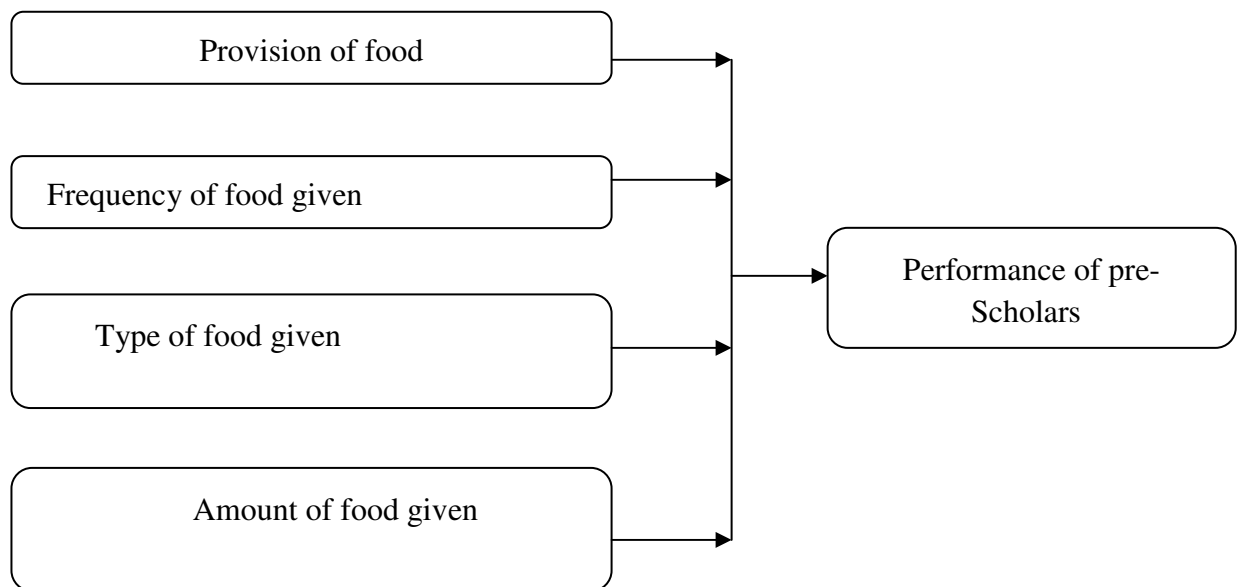
This model highlights the importance of food provision and security. From a broader view of development, it means that countries must also struggle to provide basic needs for use by their population. For a developing country like Kenya, it means that poverty must be prevented by making basic needs like food, clothing and shelter available to all citizens. Since man cannot survive without food, the government should make an effort to reduce food insecurity, especially amongst vulnerable groups like children. Where food aid is available for instance in schools through school feeding programmes, it will encourage good health, high motivation, participation,

attention in class and will obviously reduce hunger. It should be properly monitored to ensure it assists the children (King, 1966).

2.5 Conceptual Framework

This study was motivated to investigate the impact of SFP on performance of pre-school children in Mufu Zone. In the conceptual framework the performance of pre- scholars depends on: Sustained learning process in children, student enrolment and class attendance. Children are prevented from hunger and participate and concentrate in learning.

Figure 2.1: Conceptual Framework



Source: (Author, 2015)

CHAPTER THREE: METHODOLOGY

3.1 Introduction

In this chapter, the study discussed the following; research design, target population, sample size and sampling techniques, reliability, validity, data collection techniques and data analysis.

3.2 Research Design

The study adopted the ex-post facto research. This is a kind of research whereby the research establishes the impact of the independent variable on the dependent variable. This therefore indicates that the research cannot manipulate the feeding programme. The study also adopted questionnaires as the method of data collection. The research believes that the method will give information which is more comprehensive and valuable for the study or to the research carried out.

3.3 Target Population

According to Mugenda and Mugenda (1999) target population is the group of individual's events or objects which a researcher wants to generalize the results of the study. The target population includes all public pre-schools, head teachers, teachers, and children.

3.4 Sample Size and Sampling Techniques

The research sampled pre-school head teachers, teachers, and children in ECDE centres. According to Mugenda and Mugenda (1999), this method of sampling involves giving a number to every object or member of the accessible population, placing the numbers at random. The subjects corresponding to the number picked are included in the samples. This ensures that each and every member of the population has an equal and independent chance of being selected. Random sampling made sure that the population was represented and the

results can be generated on the population. The researcher selected twenty eight head teachers and sixty eight teachers.

3.5 Research Instruments

The study used primary and secondary data. The major instrument for collecting data from the respondents were questionnaires .A questionnaire is a set of questions to which the researcher expects the respondents to answer mainly in written form .Two types of question items were used in through questionnaires that are close ended questions and open ended questions. The open ended questions were used in an effect to conserve time and money. Opinion was indicated in the provided spaces. The close-ended questions were used so as to encourage the head teachers to give an in-depth and felt response without feeling hold back in revealing information. Secondary data on performance of the learners in number wok activities was obtained from their report forms for first and second terms of the year 2015.

3.5.1 Questionnaires for Head Teachers

The questionnaire is found in Appendix 1. The head teachers' questionnaire consisted of twenty five questions that the head teachers were expected to answer mainly in written form. The questions answered how the feeding programme operates and what its advantages are as well as its disadvantages .Questionnaires also answered on how children are enrolled. The questionnaires formulated specific questions out of the research questions from which relevant data was obtained.

3.5.2 Questionnaire for the Teachers

The questionnaires are found in Appendix II and the questionnaires contained nineteen academic items.

3.5.3 Validity of Instruments

Validity according to Mugenda and Mugenda (1999) is the accuracy, meaningfulness and the degree with which results obtained from the analysis of data actually represent the phenomenon of the study. In the order to determine the validity of the instrument before administration of the questionnaires the researcher presented them to the supervisor for analysis and critique. This helped the researcher to rectify and come up with good reliable instruments and also to ensure credibility of the results.

3.5.4 Reliability of Study Instrument

Reliability refers to the degree of consistency between two or more instruments addressing the same problem after a repeated trial (Mugenda and Mugenda, 1999). The reliability of an instrument can be established through test-retest technique whereby a researcher prepares an instrument which he/she administers. After sometime, the same instruments are administered to the same participant. Then the findings of the first and second administration are compared. If the findings tend to agree, then the instrument is taken to be reliable (Mugenda and Mugenda, 1999). The researcher calculates a co-relation coefficient of the two administrations.

Reliability can also be tested using the split-half technique where the research instrument is spilt into two sections. The two sections focus on the same thing but in different ways and are thus treated as two different instruments. Correlation is done between the two in order to test the coefficient. If it lies between 0.7 and 0.9 then the instrument is said to be reliable. The other way to test for reliability is to use the parallel technique where the researcher uses several instruments which are administered at different times. All the instruments focus on the same thing and if the responses agree then the various instruments are regarded as reliable (Mugenda and Mugenda, 1999). In order to achieve reliability, the researcher used the inter data observer technique whereby an observation schedule is

prepared. Different observations are done by different observers. If the different observers agree on what they observed then the observation schedules are regarded to be reliable.

3.6 Data Collection Procedures

The research visited the education office in Mufu Zone to seek permission from the assistant education officer and the same from her head teacher then visited the pre-schools during the learning sessions. The researcher administered the questionnaires to the respondent head teachers and teachers. There was allowance of one day for the collection of the questionnaires which gave the respondents ample time to complete filling. After this period, the findings from the questionnaires were put under lock and key for confidential purposes. The whole information given by each respondent was put together and recorded down accordingly for interpretation and analysis.

3.7 Data Analysis

Data analysis is a very important step in research. During this step, the researcher had to edit the data to ensure that there is completeness. The data was then organized, coded and analysed using descriptive statistics and correlation. The researcher was able to make some quantification to the responses in terms of frequencies, correlations and percentages. This was done with the aid of Statistical Software for Social Scientists (SPSS) version 20. This helped summarize and describe variables such as performance, frequency of meals offered, the type and the amount of food served. The results were then presented using tables and charts. Correlation was also done on the variables under study so as to evaluate the strength of the relationship between the dependent and independent variables.

The dependent variable was performance of the pre-school children in number work activities which was an average of their scores for the first and second term of 2015. The independent variables were; the type of food given in schools that had a feeding programme, the frequency of the feeding programme, and the amount of food served. The

types of food included breakfast, mid-morning snack, lunch and a fruit after lunch which was varying across different schools. The amount was in terms of servings of lunch where some schools served two spoons while others served only one spoon per child. The frequency was in terms of the number of times in a week the children were given food in school and was therefore presented in terms of number of days in a week. The dependent variable was correlated against the independent variables using SPSS version 20 and the interpretation of the Pearson Correlation co-efficients was done. Coefficient values that lie between 0.5 and 1 indicate a moderate to strong positive correlation among the variables while those that are less than 0.5 but greater than 0 indicate a weak positive correlation (Mugenda and Mugenda, 1999). Negative correlation co-efficients indicate negative correlation between variables.

CHAPTER FOUR: FINDINGS, DISCUSSION AND INTERPRETATION

4.1 Introduction

This chapter consists of data findings, discussion, presentation and interpretation. The topic of research was to investigate the impact of SFP on performance of pre-scholars in Mufu Zone. Descriptive statistics and correlations were used in order to help achieve the research objectives. The target population for this study comprised of head teachers of public pre-schools, teachers, and pre-scholars in the Zone.

Simple random sampling was used to select two teachers from each school for interviews. One head teacher from each school was selected. The response rate was found to be 78% for head teachers and 100% for teachers. This indicated that 28 head teachers and 56 teachers of the sample population were able to successfully fill and return the questionnaires to the researcher. The reason for this was because the researcher adopted the school visiting method which was effective since most pre-scholars and teachers liked the interviews thus the response was likely to be good. The data collected was analysed using the Statistical Package for Social Sciences (SPSS) version 20 and the output presented in form of tables, and pie charts. The research made use of frequencies, percentages, and correlations to interpret the information.

4.2 Demographic Information

In this section, the researcher analysed the gender, age, number of years in the present station of head teachers, and teachers.

4.2.1 Head Teachers

The researcher was interested in knowing the gender, age, and number of years in the present station for the head teachers, and presence of ECD section. The researcher found out that all head teachers were female whose age was 31 years and above for 15% with majority being 41 years and above (85%). Out of all the respondents 57% had a teaching experience of 6-10 years while

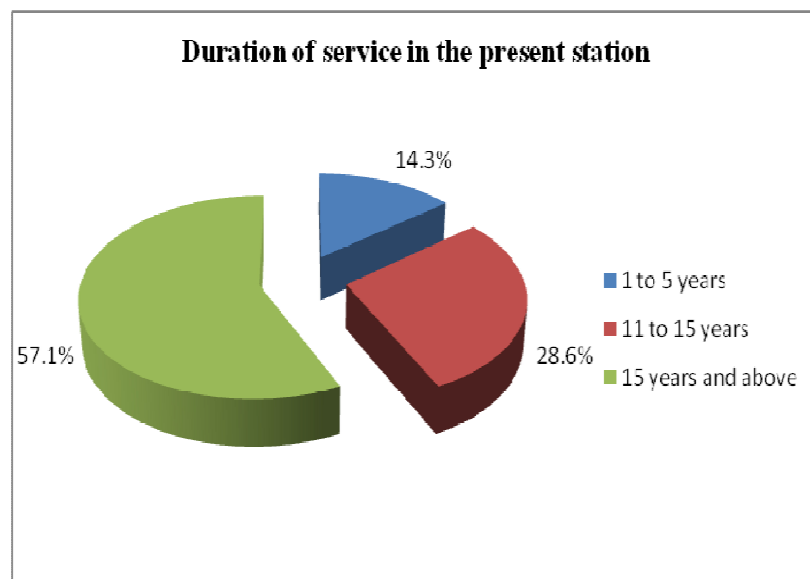
43% had a teaching experience of 11 to 15 years. Table 4.1 below gives the duration of the head teachers at the current station.

Table 4.1: Duration of service in the present station

	Frequency	Percent
1-5yrs	4	14.3
11-15 yrs	8	28.6
15 and above	16	57.1
Total	28	100.0

From table 4.1 above majority of the head teachers had been in the present station for 15 years and above. This is given by 57.1% of all respondents. They were followed by 28.6% of the respondents who had been in present station for 11-15 years. The least (14.3%) had been in the present station for 1-5 years. Figure 4.1 also shows the respondents' duration of service in the present station.

Figure 4.1: Duration of Service in the Present Station



In the same area, all respondents confirmed their pre-school had an ECD section which enrolled both boys and girls.

4.2.2 Teachers

The researcher was interested in knowing the gender, age, teaching experience, number of years in the present station for the teachers, number of ECD learners the teachers have in a class and whether the teachers are trained ECD Teachers. The researcher found that all teachers were female. Out of all respondent teachers, 31% were between 31 to 40 years, 32.4% were 40 years and above, while only 12.5% were between 23-30 years. This indicated that majority of the teachers were above 31 years of age. Table 4.2 below demonstrates the findings.

Table 4.2: Respondents' Age

	Frequency	Percent
23-30 years	7	12.5
31-40years	31	55.35
40 and above	18	32.14
Total	56	100.0

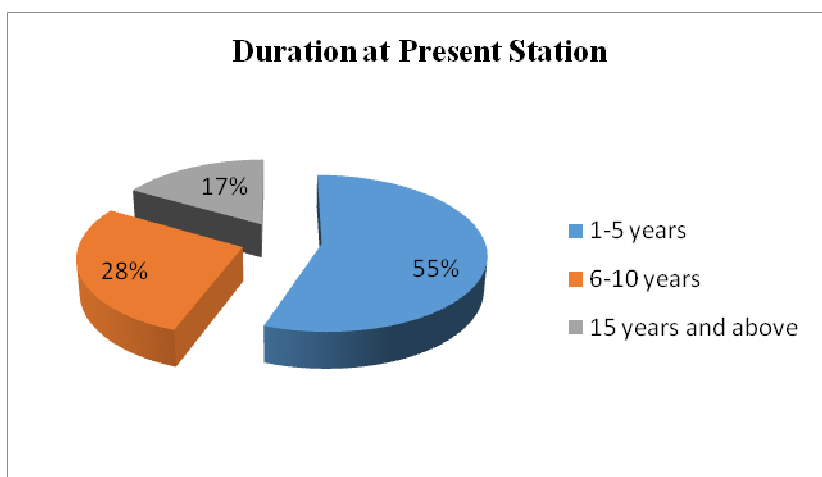
The researcher also found out that, out of all respondent teachers, 66.7% had a teaching experience of 11 to 15 years, 16.7% had an experience of six to 10 years and another 16.7% had an experience of 15 years and above. This implied that majority of the respondent teachers had a teaching experience of 11 to 15 years. It could have been as a result of their age which indicated they had been working for long. Table 4.3 below gives the same finding.

Table 4.3: Respondents' Teaching Experience

	Frequency	Percent
6-10 years	11	16.7
11-15 years	45	66.7
15 years and above	12	16.7
Total	68	100.0

Further in this area the researcher noted that 55.6% of the respondent teachers had been in their present stations for a period between one to five years, 27.8% had been in service in the present station for a period between six to ten years, while only 16.7% were in their present stations for 15 years and above. Therefore, majority of the respondent teachers had been in their present stations for a period between one to five years. Figure 4.2 show the findings.

Figure 4.2: Duration of Service in the Present Station (teachers)



In another area, all teachers indicated that they had between 55 and 75 ECD learners in their pre-schools. The ratio of boys to girls was 1:1 indicating that the numbers of girls equalled the

numbers of boys. This indicated there was no discrimination in ECD learning programme in this area. Also it was important to note that all ECD teachers were trained in early childhood education.

4.3 Nature of School Feeding Programme

In regard to the nature of SFP, the researcher wanted to know if they existed, the amount of food served to the learners, types of food, the frequency of the food programme in terms of number of days in a week, and how the children are served.

4.3.1 Existence of School Feeding Programme

In this regard, the researcher found out that all the schools had a feeding programme. Out of these schools, 71.4% had the programme for a period of one to five years, while only 28.6% had for a period of six to ten years. This implied that the idea of SFP had not been practiced for long.

4.3.2 Types of Meals

The researcher sought to find out the various types of food offered in the schools under study.

The results are presented in table 4.5.

Table 4.4 Types of food offered

	Frequency	Percent
Special package	6	21.4
Normal package	8	28.57
lunch alone	8	28.57
Porridge alone	6	21.4
Total	28	100.0

The researcher found out that 21.4% of the schools had a special package that consisted of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with

vegetables) and a fruit after lunch. 28.57% of the head teachers responded that they offered a normal package consisting of a nutritious breakfast of porridge, lunch (ugali/rice served with vegetables) and a fruit after lunch. 28.57% of the respondents said that they offered lunch alone without breakfast, snack or fruit while 21.4% said that they offered only porridge. All the respondents indicated that the person who cooked was an employed community member and that the children were served by the cook. All the respondent schools with a collaborative programme noted that they ask parents to contribute toward a common meal.

Further the researcher noted that the teachers normally met with the head teacher and discussed how to make the feeding programme better. Their meeting was done occasionally and they discussed issues to deal with, meal times, food serving, how the meals were prepared, need for additional of facilities and to give any feedback on the programme as conveyed by the pre-schoolers. They all agreed that the meetings had an impact on the feeding programme where the issues discussed were looked into to improve the programme performance in delivering service and the quality of meals. They also conveyed the feedback to WFP.

4.3.3 Amount of Food Offered

The researcher sought to find out the various amounts of lunch the schools offered in terms of the servings. The results are presented in table 4.7.

Table 4.5: Amount of food offered

	Frequency	Per cent
1 serving spoon	15	53.57
2 serving spoon	13	46.4
Total	28	100.0

From the findings, 53.57% said they offer 1 serving while 46.4% said that they offer 2 servings.

4.3.4 Frequency of Food Offered

The researcher sought to find out the frequency of the feeding programme in terms of number of days in a week. The results are presented in table 4.8.

Table 4.6: Frequency of food offered

	Frequency	Percent
1 day	2	7
2 days	3	10.71
3 days	6	21.42
4 days	7	25
5 days	10	35.7
Total	28	100.0

7% of the respondents indicated that they offer food to the pre-school learners 1 day in a week, 10.71% said that they offer the food for 2 days in a week, 21.42% said they offered the food for 3 days in a week while 25% said that they give food for 4 days in week. The majority of the respondents, 35.7%, said that they offer the food for 5 days in a week.

4.4 Effects of School Feeding Programme on the Performance of Pre-scholars

Table 4.7: Descriptive statistics for overall performance

	N	Minimum	Maximum	Mean	Std. Deviation
Overall performance in number work activities	28	70.00	95.00	84.2778	6.86685
Valid N (listwise)	28				

Overall, the maximum score for the pre-school learners' performance in number work activities in all the sampled schools was 95%, the minimum score was 70% while the mean was 84.2778%. The standard deviation was found to be 6.866685.

4.4.1 Correlation between type of food offered and the performance

Table 4.8: Correlation between type of food offered and the performance

		Mean mark
Type of food	Pearson Correlation	0.856
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the type of food offered in the schools under study and the mean performance of the learners at 0.01 level of significance. The Pearson Correlation co-efficient was 0.856 which showed that there exists a strong positive correlation between the type of food offered and the performance of the pre-school learners.

4.4.2 Correlation between amount of food and performance

Table 4.9: Correlation between amount of food offered and the performance

		Mean mark
Amount of food	Pearson Correlation	0.832
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the amount of food offered and the mean performance of the learners in the sampled pre-schools at 0.01 level of significance. The Pearson Correlation co-efficient was 0.832 which showed that there exists a strong positive correlation between the type of food offered and the performance of the pre-school learners.

4.4.3 Correlation between frequency of meals and performance

Table 4.10: Correlation between frequency of food offered and the performance

		Mean mark
Days in a week	Pearson Correlation	0.812
	Sig. (2-tailed)	.003
	N	28

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

The researcher ran a correlation between the frequency of the feeding programme and the mean performance of the learners in the sampled pre-schools at 0.01 level of significance.

The Pearson Correlation co-efficient was 0.812 and this showed that there exists a strong positive correlation between the frequency of the feeding programme and the performance of the pre-school learners.

In the area of performance, the respondent head teachers from the schools in the feeding programme confirmed that there had been an increasing trend in performance with many pre-scholars being attentive in class. However, one of the pre-schools performances was constant and sometimes going in a low trend but it was attributed to other factors like poor classrooms and family related issues.

It was noted from the findings that the type of meals offered as well as the number of servings impacted on performance whereby the schools that offered a special package of breakfast, mid-morning snack, lunch and fruit for 5 days a week recorded the highest performance level.

All the teachers from the schools offering the feeding programme further graded their school feeding programme as good and all respondent teachers noted the effects of the feeding programme on performance as good. This indicated that the feeding programme had a positive impact on performance. This was further supported by the fact that children's participation in

activities before meals was slow and there was poor concentration as opposed to participation after meals where concentration was good and the children were jovial. The children's favourite meal was ugali and porridge.

According to the teachers, their role as far as the feeding programme is concerned is to ensure that children are taken care of adequately since this affects their class work. Also they work as intermediaries between the children and head teachers. They also indicated that they recommend which meals to be given to children and that they check on quality service delivery among the cooks. The respondents noted that the child's performance had been on the increase mainly because the children were comfortable.

The findings from majority of the teachers were that in the morning, the children looked happy to be in the school, although they looked pale. This could have been due to lack of breakfast in the morning and poor diet in their evening meals. Some hours before meal the children looked jovial and were in a hurry to leave the classrooms. Some respondent teachers had noted children fighting and making irregular queues to be served first. The best moments were in the afternoon after the meals where the children looked happy and satisfied and concentrated in class. However, some pupils were said to engage themselves in play and slept peacefully in the afternoon.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on objectives of the study which were to determine the effects of the feeding programme on the performance of pre-scholars in number work activities.

5.2 Summary of Findings

The researcher wanted to know the frequency of the feeding programme in a week, the types of food given to the school children and how the food was served.

The study found out that all the schools had a school feeding programme. However, out of all the respondent schools, 71.4% had the programme for a period of one to five years, while only 28.6% had for a period of six to ten years. This implied that the idea of SFP was not practiced for long.

It was also found that the maximum score for the pre-school learners in number work activities was 95%, the minimum score was 70%, and the standard deviation was 6.867 while the mean score was 84.28%. In terms of type of food; the schools that offered the special package of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with vegetables) and a fruit after lunch performed better than the normal package of porridge, lunch and a fruit, those offering lunch alone or porridge alone. The mean performance of those who offered two servings of lunch was higher than that of the learners who were given only 1 serving of lunch. In terms of frequency, the researcher noted that the schools that offered food to the learners for 5 days a week performed better

than those that offered the meals for 4, 3,2 and 1 day(s) a week. From the correlation results, it was noted that the independent variables namely; type of food, amount and frequency of the SFP recording a correlation co-efficient of between 0.81 and 0.85 which indicated a strong positive correlation with the performance of the pre-scholars in number work activities.

5.3 Conclusion

Parents were called for a meeting to create awareness concerning the SFP, whereby each child was represented by his/her parent. This study concludes that the school menu in the sampled schools was: special package of a nutritious breakfast of porridge, mid-morning snack, lunch (ugali/rice served with vegetables) and a fruit after lunch performed or a normal package of porridge, lunch and a fruit, while some were offering lunch alone or porridge alone. Majority of the parents supported the feeding programme by constructing the kitchen, paying the cooks, offering facilities like, spoons, plates, and sufurias, offering materials like firewood, taking part in kitchen cleaning activities and volunteering to serve the children. The overall conclusion of the study is that the types of food, frequency of meals, and amount served have an impact on performance of pre-school children in number work activities in Mufu Zone, Embu County.

5.4 Recommendations

From the findings, the researcher recommends that the schools provide a balanced diet that comprises of carbohydrates, proteins and vitamins. More portions of carbohydrates should be given as these are energy-giving foods that will enable the pre-school children to have enough energy to sustain them in play and this will also help them be attentive in class. Children lacking certain important nutrients from their diet as well as those suffering from protein-energy malnutrition do not learn as effectively as those children that are well-nourished since they are not able to participate in learning experiences. Poor nutrition has been seen to diminish children's cognitive development thereby affecting performance. The

food should also be provided in enough portions so that the children do not become disinterested and withdraw. On frequency, the schools should work on providing food at least 3 times a day as the findings from the study have shown that the schools giving food more frequently record better performance.

5.5 Recommendations for Further Studies

In relation to the findings and the conclusion in this study, the researcher recommends that further studies should be done on the impact of school feeding programme on the performance of pre-school children.

REFERENCES

Ahmed, AU and Billah, K. (1994) *Food for Education Program in Bangladesh: An Early Assessment*. International Food Policy Research Institute, Bangladesh Food Policy Project, Dhaka.

Glewwe, P. and Hanan J. (1994) *An Economic Analysis of Delayed Primary School Enrollment and Childhood Nutrition in Ghana*. LSMS Working Paper 98. World Bank, Washington, D.C.

King, M. (1966). *Medical Care in Developing Countries* London Oxford University Press, London

Levinger, B. (1986). *School Feeding Programmes In Developing Countries*. An Analysis Of Actual and Potential Impact USAID, Washington D.C.

Levinger, B. (1989). *Malnutrition, School Feeding and Education Performance*. UNESCO, Chicago: The University of Chicago Press. 59

Meyers, A., Sampson A., Weitzman M., Rogers B., Kayne H. (1989) *School Breakfast Program and School Performance*. American Journal of Disabled Children Washington DC143:1234-1239

Mitchell, A., Mendez Lindsa S Adair (1999). *Early Growth Stunting Impacts Children Cognitive Development Later In Life* .Toronto

MOEST, (1998). *Master Plan On Education And Training 1997-2010*, Nairobi.

Moore, E. (1994) *Evaluation of the Burkina Faso School Feeding Program*. Catholic Relief Services, Consultant Report. (Unpublished).

Mugenda, O. and Mugenda A. (1999). *Research Methods: Quantitative and Qualitative Approaches* Nairobi: Act Press, Kenya.

Nokes, C., Van de Bosch C., Bundy DAP (1998) *The Effects of Iron Deficiency and Anemia on Mental and Motor Performance, Educational achievement, and behavior in children: An annotated bibliography*. INACG document. Washington, DC:ILSI Press.

Pollit, E. (1998). *Department Of Pediatrics, School Of Medicine, Programme Of International Nutrition University Of California*.

Pollit, P. (1984). *Department Of Behavioral Sciences, University Of California, California*.

Republic of Kenya, (1988). *Report Of The Presidential Working Party On Education And Man- Power Training For The Next Decade And Beyond (Kamunge Report)* Government Press, Nairobi.

Republic of Kenya, (1988). *Report of the Training Review Committee 1988*, Nairobi, Government Press.

UNESCO, (1990). *World Food Programme Handbook Rome UNESCO, Printing Press*.

UNESCO, (1991). *Child Health, Nutrition and School Participation*, Philadelphia: Temple University Press.

Walter, T., Hertrampf R. (1993) *Childhood Malnutrition and Schooling in the Terai Region of Nepal*. *Journal of Development Economics* 20: 33-52.

The University of Chicago Press World Food Programme, (2001). *Global School Feeding Campaign Into School Out Of Hunger* ,WFP, Public Affairs Service, Rome Italy

World Food Programme, (2001). *Operational Contact between the Government of Kenya and the World Food Programme*, Kenya Country Programme, Government press, Nairobi.

APPLICATION LETTER TO THE HEAD TEACHER

University Of Nairobi,
Private Bag,
Nairobi.

The Head Teacher,
Njeruri Primary School,
P.O Box 32,
Runyenjes.

Dear Sir/Madam

REF: PERMISSION TO CARRY OUT RESEARCH STUDY

I, Kamau Ann M, of the above named school is undertaking a Masters course in ECDE at the above named institution.

I wish to inform you that I will be carrying a research study in your pre-school in order to collect information on my study.

Please I hereby request permission to administer a questionnaire to you as the head teacher and to pre-school teachers. Their experience will help me complete my study paper.

I look forward for your positive response.

Thank You
Yours Faithfully,

Kamau Ann M

APPENDICES

Appendix I: Head teachers Questionnaire

Introduction

Please respond to each question by ticking the appropriate response in the spaces provided. Your responses will be completely confidential and will be used by the researcher for the purpose of this study only.

Therefore, do not write your name anywhere in this questionnaire. You're kindly requested to respond to all items applicable to you.

1. Gender

Male []

Female []

2. Age

25 - 30 years []

31 - 40years []

41 and above []

3. Teaching experience

1 - 5yrs [] 6 - 10yrs [] 11- 15yrs [] 15yrs and above []

4. How many years have you been to the present station?

1 - 5yrs [] 6 - 10yrs [] 11- 15yrs [] 15yrs and above []

5. Does your school have an ECD section? Yes [] No []

6. What is the enrolment of ECD learners?

Boys []

Girls []

Total []

7. Is there a feeding programme in the school? _____

8. For how long has the feeding programme been operated?

9. What promoted the need to have a feeding programme in the school?

10. Did you call a parents meeting to create awareness as concerns the school feeding program?_____

If yes, how many parents attended the meeting? _____

11. Who finances the feeding programme?

12. How is the programme organised in your school?

13. For how long has your school been having the school feeding programme?

14. What types of food does the school offer?

Porridge []

Snacks []

Fruits []

15. Who cooks the food?

Employed persons []

Teachers []

Community member []

16. Who serves the children with food?

Cooks [] Teachers []

17. Where are the cooking equipments/utensils kept?

Head teachers office [] School store [] Kitchen []

18. What type of fuel does the school use in cooking?

Paraffin [] Electricity [] Charcoal [] Firewood []

19. Are there children who do not carry food in the pre-schools?

Yes [] No []

If yes how do you cater for their needs?

20. Do you have a school rule asking all the children to carry food?

Yes [] No []

21. How has been the performance trend in your pre-school?

22. How many children were enrolled in pre-school for the last 4 years?

Years	No. of Children	Boys	Girls
2012			
2013			
2014			
2015			

23. How is your school menu?

DAY	BREAK	LUNCH
MONDAY		
TUESDAY		
WEDNESDAY		
THURSDAY		
FRIDAY		

25. How can the problems you face in sustaining the school feeding programme be

Addressed. _____

Thank you for your contribution and co-operation

Appendix II: ECD Teacher's Questionnaire

This questionnaire is meant for the purpose of academic research only. Your opinion will be treated with a lot of confidentiality.

1. Gender

Male [] Female []

2. Age

23 - 30yrs [] 31-40 yrs [] 40 and above []

3. Teaching experience

1-5 yrs [] 6-10 yrs [] 11-15 yrs [] 15 yrs and above []

4. How many years have you been in the present station?

1-5 yrs [] 6-10 yrs [] 11-15 yrs [] 15 yrs and above []

5. How many ECD learners do you have in class?

Boys [] Girls [] Total []

6. Are you a trained ECD Teacher?

Yes [] No []

7. State the impact of feeding programme in your school?

.....

8. Do you normally meet with the head teacher and discuss how to make the school feeding programme better?

Yes [] No []

9. If yes to (8) above, how often

Occasionally [] Often [] Very often []

10. What are some of the issues you discuss in the meetings in relation to school feeding programme and performance?

.....
.....
.....

Do the meetings have any impact towards the feeding programme?

Yes [] No []

11. If yes above (11) how?

.....
.....
.....

12. What challenges do you face in sustaining the feeding programme in your school?

.....
.....
.....

13. How can you grade your school feeding programme?

Very Good [] Good [] Fair [] Poor []

14. What are the effects of feeding programme on performance?

Very Good [] Good [] Fair [] Poor []

15. Comment on children's participation in activities

Before meals

After meals

16. What are children's favourite meals?

17. What is your role as far as school feeding programme is concerned?

.....

18. Comment on the performance of children in pre-school?

.....

19. What do you think can be done to improve the school feeding programme in your school?

.....

Appendix III: Number work Activities

BABY-CLASS

NAME..... DATE

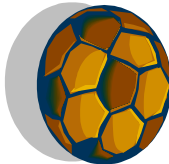
Colour the numbers.



Match the pictures



Read the pictures



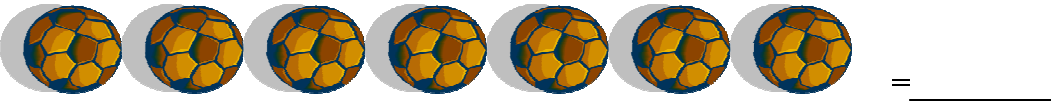
NURSERY

NameDate.....

Write the missing numbers. 1, _____, 3 _____, 5, _____

2, 3, _____, _____, _____

Count



Draw the balls

$3 =$

$7 =$

$2 =$

$4 =$

Add (+)

$2 + 1 =$

$4 + 3 =$

$2 + 2 =$

$5 + 2 =$

Take away (-)

$6 - 4 =$

$7 - 3 =$

$8 - 5 =$

$5 + 2 =$