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School Feeding Program and Its Impact on Academic Achievement in ECDE in Roret Division, Bureti District in Kenya

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Abstract

The School Feeding Program (SFP) is an essential aspect of child growth and holistic development. To establish a functional SFP, parents should be involved in all procedures to ensure sustainability of the program which will cater for children from diverse socio-economic backgrounds hence academic achievements among Early Childhood and Development (ECDE) children. The purpose of this study is to establish the relationship, if any, between type of school and success of school feeding program, and to determine the relationship, if any, between school feeding program and academic achievement among ECD children. The target population were Head teachers in Roret Division, Bureti District. The schools were first placed in two strata of public and private category then schools were randomly selected comprising of 24 Head teachers. Data was collected through questionnaires administered to the Head teachers in the ECD centres. Observation and checklist was used by the researcher to verify what had been said by respondents and validate what was reported through questionnaire. The data collected was presented analysed and reported in terms of percentages, frequencies, means, chi-square and F-test. The results obtained indicate that schools providing SFP showed high academic achievement among ECD children. The study is significant as it provides DICECE officers, teachers, Parents, QASO and policy makers to establish functional and sustainable SFP in all ECD centres with a view to improving health and academic performance in both public and private schools in Kenya.

Keywords: school feeding programme (SFP), academic achievements, ECDE in Roret division in Kenya

INTRODUCTION

A School Feeding Program (SFP) is essential to provide a balanced diet to ECD children which would in turn enable the children to increase their attention span hence better academic achievement. In this study it was hypothesized that school feeding program has an impact on the success academic achievement at ECDE level. The School Feeding Program is a crucial component in the development of a holistic child. Nutrition and health are powerful influences on a child's learning and how well a child performs in school. The effect of under nutrition on young children aged (0-8) can be devastating and enduring. In the area of cognitive development, "when there isn't enough food, the body has to make decision about how to invest the limited foodstuffs available. Survival comes first, growth comes second. Good nutrition involves consumption of a variety of foods in appropriate amounts, since no single kind of food can provide all the necessary nutrients, protein, carbohydrates, fats, vitamins, minerals, fibre and water are all very important. Undernourished children have short attention span which is linked to low glucose levels. Food provides a good amount of glucose amongst children, provision of balanced diet would enable children to develop their cognitive, psychomotor and affective domain. A healthy child will concentrate more in class work hence developing the cognitive part. He can also play to develop physically and will interact with others with a lot of ease and grow in self esteem.

In the year 2003 the Kenyan Government re-introduced Free Primary Education (FPE) to all public primary schools in Kenya aiming at boosting primary enrolment and retention of pupils in schools. Every primary school in Kenya has an ECDE attached to it. However attendance of ECDE did not increase proportionally. Sensitization was not done on management of ECD Centers which made parents to keep their children at home and have them move straight to standard one. SFP in ECDE centres makes children to enjoy the learning at the centres since there is no provision of food in the primary school. The researcher sought to establish the impact of SFP and its relationship with academic achievement among ECD children.

Role of School Feeding Programs

School Feeding Programs (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 motivate parents to enrol their children in school and to see that they attend regularly, programs effectively reduce absenteeism and drop outs.
School Feeding Programme (SFP) alleviate short-term hunger in malnourished or otherwise well-nourished school children, helping them increase attention span and producing gains in cognitive function and learning, addressing specific micronutrient deficiencies in school aged children. Meeting the iron and iodine needs of school- aged children can translate into better school performance.
Increased community involvement in schools, particularly where programs depend on the community to prepare and serve meals to children are more effective than schools with less community involvement.

Alleviate Short-Term Hunger and improve Cognition

The number of hungry school-age children is unknown, but is likely to be a significant problem in various circumstances. Factors that contribute to hunger in school children, the long distance children have to travel to school, cultural meal practices that include no or little breakfast or lack of family time or resources to provide adequate meals to children before or during the school day. Alleviating this hunger in school children helps them to perform better in school.

United States of America showed the benefits of providing breakfast to disadvantaged primary school students. Once in the program, however, test scores of the children participating in the program improved more than the scores of non-participants. The attendance of participating children also improved (Meyers, 1989)

In Pakistan, a program provides an income in the form of one or two tins of oil to families whose girls attend school for twenty days per month. In its pilot phase the oil incentive program demonstrated that it could make a significant contribution to full attendance. In participating schools enrolment improve by 76% compared to14% in the province overall. Attendance increased from 73% to 95% among participants. The program also claims to put additional food in the lands of mothers to serve as a contact between mothers and teachers on distribution days (WFP, 1996). In Bangladesh a program of school-based food distribution increased enrolment by 20% versus a 2% decline in no-participating schools (Ahmed and Billah, 1994).

Micronutrient deficiencies and improve learning

Deficiencies of iron and iodine are among the most harmful types of malnutrition with regard with cognition, Iron deficiency renders children restless, inattentive and uninterested in learning.

In South Africa, soup fortified with Iron and Vitamin C was provided to 350 schools in an area of six to seven year old and 20% of 8 to 12 years old children had low weight-for age and 49% and 31% had low serum ferrtin (a measure of Iron deficiency) respectively. At follow up, after 15 weeks of intervention, iron status improved significantly, falling from 49% to 28% in 6 to 7 year old children.
A relatively new breakfast program in Peru, which includes an iron –fortified ratio, was evaluated for its short-term impact on diet, amongst other factors. The program significantly increased dietary intakes of energy by 25% protein by28% and iron by 46% (Jacoby and Pollit, 1997).

Makueni District in Kenya has been providing school lunches to every school with a lot of support from the World Food Program (WFP). Parents assist to provide some food stuffs; the aim is to ensure that children are not hungry. Performance has been excellent which has been credited to a sustainable school feeding program with observation made by Bimbo and Mwiria on the crucial role of nutrition in education. A number of interventions can promote the health and nutritional status of school children. Children come from diverse economic status therefore School feeding program can bring about uniformity among children who might be vulnerable making learning effective and high rates of competition.

School Feeding Programs established in most areas are based on alleviation of hunger, this kind of program is seen to be necessary in ASAL areas where, the supply of food is minimal and most school depend on donors to provide food.

STATEMENT OF THE PROBLEM

Infrastructure and financial resources have been a challenge in the establishment of a successful school feeding programmes in ECDE Centres in Kenya. Undernourished children consume little energy and other essential nutrients whereas over nourished children become over weight leading to health problems and social stress. This would impact on the children's academic performance in both public and private schools in Kenya
The researcher therefore seeks to establish the relationship, if any, between type of school and success of school feeding program, and to determine the relationship, if any, between school feeding program and academic achievement among ECD children in Roret Division, Bureti District, Rift valley, Kenya.

SCOPE AND LIMITATION OF THE STUDY

This study was concerned with school feeding program and its impact on academic achievement in ECDE in Roret division, Bureti district in Kenya. The respondents of interest in this research were 24 head

teachers in ECDE Centres in Roret Division Bureti District, Kenya.

The study had limitations whereby some respondents were suspicion and fearful in the initial stages despite the assurance given to them. However, this was overcome by re- assuring the respondents of confidentiality of information given, establishing of rapport with the respondents, and responses that were unreliable and invalid were tackled by triangulating the data through interviews and observation.

MATERIAL AND METHODS

The researcher employed a cross-sectional survey design. The design was considered appropriate because it involved collecting data at one point in time within a school term across participants in Bureti District in Kericho, Kenya. Data collected through cross-sectional survey emerge from a sample and can be generalized to a wider population (Cohen et. al, 2004). The survey was suitable because it led to the use of different methods to collect data. In order to analyze the objectives outlined in this study, the researcher conducted a cross-sectional survey in 24 schools.

The target population consisted of all ECD centres in Roret Division, and the 24 Head teachers. In November 2009 there were 80 ECD centres in Roret Division comprising of 60 public ECD centres and 20 private centres.

Bryman (2004) holds the view that in social research, researcher handles many variables which may impact on the data analysis process. In line with the variables for the study a total of 24 schools (30%) were selected. Stratified sampling method was used to select 8 private schools and 16 public schools. The schools were categorized on the basis of availability of SFP. Once schools had been selected, the accessible Head teacher, constituted the study sample.

Questionnaire

Both structured and unstructured questionnaires were used in the study. The structured questionnaires had close-ended questions which limit the type of answers the respondents can provide. Structured questionnaires generate responses which can be subjected to statistical analysis (Cohen et al, 2004). The questionnaire for Head teachers, were written in English.

Interview Schedules

The researcher employed the use of interview to the Head teacher to establish academic achievement among ECD children. Personal interview was easy to administer and a great deal of information was gathered since the respondents could seek for clarification on what the researcher was asking in relation to the impact of SFP on academic achievement at ECDE level.

Observation checklist

The researcher observed the kind of food and number of times that the children are supplied with food. Observation was done in two public schools that had SFP and private schools that had SFP but varied on the type of food given to the children. Pupils in school with SFP scored higher than those without SFP and the relationship between SFP and academic achievements was observed.

Academic Performance Tests

Academic performance of children in sample schools was measured through administering tests to them. The tests were those set by subject panels in educational zones as end of mid term examinations. It was understood that different schools set their own examinations but a common paper was done by all learners in the introductory class to determine the relationship, if any, between SFP and academic achievement of ECD learners.

Academic achievement test were the single measurement of the dependent variable. Participants were rated on their performance in the following learning activity areas namely creativity, language activity, mathematics activity and reading activity.

RESULTS AND DISCUSSIONS

Type of School and School Feeding Program

The objective of the study was to determine the relationship between type of school and availability of SFP. From the study a total of 16 public schools and 8 private schools, all the private schools and 2 out of 16 public schools had school feeding program, were studied as summarized in the Table 1 below. The schools with SFP comprised of 41.7% and those without the program comprised of 58.3%. The schools with SFP comprised of two public schools and eight private schools, however schools without SFP comprised of 14 public schools.

Table 1: Type of School and School Feeding Program (n = 24)

	Frequency	Percent	With SFP	Without SFP	SFP %
Public	16	66.7	2	14	41.7
Private	8	33.3	8	0	58.3

Source: Research Data (2011)

The chi square statistics showed that the SFP had a significant relationship and association with the type of school, X^2 = (24.556), (10) $p<0.05$ and X^2 = (6.289), (1) $p<0.05$ respectively as summarized in Table 2.

Table 2: Chi-Square Statistics Showing the Relationship between Type of School SFP (n = 24)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.556(a)	10	0.006
Linear-by-Linear Association	6.289	1	0.012

Source: Research Data (2011)
Key: df – degree of freedom

The type of school had a negative relationship with the school feeding program, ($r = -0.837$, $p<0.001$) as shown in table 3. The correlation analysis showed that the type of school had negative influence on school feeding program.

Table 3: Correlations between the Type of School and School Feeding Program (n =24)

		Type of school
School feeding program	Pearson Correlation	-0.837(**)
	Sig. (2-tailed)	0.001

Source: research Data (2011)
** Correlation is significant at the 0.01 level (2-tailed).

Finding on School Feeding Programme and Academic Achievement

On the objective to determine the relationship between SFP and academic achievement of ECD learners, the academic performances of schools with and without SFP were different as shown in the table 4 below. The private schools with SFP had the highest mean score of 368.13, the public schools with SFP had a mean of 260 and the public schools without SFP had the least mean of 173.93. From these results it shows that the schools with SFP had the highest performance compared to those without SFP.

Table 4: Relationship between SFP and Academic Performance

Type of school	SFP	Mean
Private	With	368.13
Public	With	260.0
Public	Without	173.93

Source: Research Data (2011)

The type of school had a positive relationship with the academic performance and negatively related to school feeding program at 1% level of significance, ($r = 942$, $p<0.001$ and $r = -0.837$, $p<0.001$ respectively) table 5. The academic performance had a negative relationship with the school feeding program, ($r = -0.926$, $p<0.001$). The correlation analysis showed that the type of school had a positive influence on the academic performance of the schools and academic performance had a negative influence on school feeding program.

Table 5: Correlations between the type of School and the Academic Performance (n = 24)

		Type of school	Academic performance
Academic performance	Pearson Correlation	0.942(**)	1
	Sig. (2-tailed)	0.001	0.0
School feeding program	Pearson Correlation	-0.837(**)	-0.926(**)
	Sig. (2-tailed)	0.001	0.001

Source: Research Data (2011)
** Correlation is significant at the 0.01 level (2-tailed).

The cross tabulation results showed that there was a significant association between the academic performance, the type of school and school feeding program, $p<0.05$ as shown in the table 6 below. From the analysis the academic performance had a significant relationship with the type of school $X^2 = (24.00)$, $(15, 1)$ $p>0.05$. The academic performance had no significant relationship with the school feeding program $X^2 = (24.00)$, $(15, 1)$ $p>0.05$. From the Chi square results there is no significant relationship between the SFP and academic performance.

Table 6: Chi Square Results on Academic Performance

		Value	df	Asymp. Sig. (2-sided)
Type of school	Pearson Chi-Square	24.000	15	0.065
	Linear-by-Linear Association	20.390	1	0.000
School feeding program	Pearson Chi-Square	24.000	15	0.065
	Linear-by-Linear Association	19.738	1	0.000

Source: Research Data (2011)

One Way Analysis of Variance (ANOVA)

Comparison of means was done using the one way analysis of variance on the variables under the study Table 7. The F ratio was used for comparison of mean between schools with and without SFP. The F ratio is the measure of variation and when its value is less than 1 then it represents non –significant effect. The observed F ratio for type of school was significant to the SFP $F(1, 22) = 51.333$, $P < .5$). The Academic performance had significant effect on SFP, ($F(1, 22) = 133.114$, $P<.05$). From the results it showed that there was significant effect of school feeding program on type of school and academic performance.

Table 7: One way analysis of Variance (ANOVA)

		Sum of Squares	Df	Mean Square	F	Sig.
Type of school	Between Groups	3.73	1	3.733	51.333	0.001
	Within Groups	1.60	22	.073		
	Total	5.33	23			
Academic performance	Between Groups	173721.91	1	173721.905	133.114	0.001
	Within Groups	28711.43	22	1305.065		
	Total	202433.33	23			

Source: Research Data (2011)

Type of School and Success of School Feeding Program

The schools without SFP were more than those with SFP. All the private schools had SFP. The chi square statistics showed a significant relationship between the type of school and SFP. The type of school had a negative relationship with the school feeding program. The correlation analysis showed that the type of school had negative influence on school feeding program.

School Feeding Program and Academic Achievement

The schools with SFP had the highest performance compared to those without SFP. The private schools with SFP had the highest mean followed by the public schools with SFP and finally the public schools without SFP had the least mean score. The type of school had a positive relationship with the academic performance and negatively related to school feeding program at 1% level of significance. The correlation analysis showed that the type of school had a positive influence on the academic performance of the schools and academic performance had a negative influence on school feeding program.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

The summary, conclusion, and recommendations are as follow;

Type of School and Success of School Feeding Program

The schools without SFP were more than those with SFP. All the private schools had SFP. The chi square statistics showed a significant relationship between the type of school and SFP. The type of school had a negative relationship with the school feeding program. The correlation analysis showed that the type of school had negative influence on school feeding program.

School Feeding Program and Academic Achievement

The schools with SFP had the highest performance compared to those without SFP.
The private schools with SFP had the highest mean followed by the public schools with SFP and finally the public schools without SFP had the least mean score. The type of school had a positive relationship with the academic performance and negatively related to school feeding program at 1% level of significance. The correlation analysis showed that the type of school had a positive influence on the academic performance of the schools and academic performance had a negative influence on school feeding program.

CONCLUSION

The schools without SFP were more than those with SFP. All the private schools had SFP whereas two out of sixteen public schools had School Feeding Programme. This shows that the type of school determined availability of School Feeding Programme (SFP), parents in private school participated in SFP while those in public were low income earners and could not participate fully due to limited resources.

The schools with SFP had the highest performance compared to those without SFP. The private schools with SFP had the highest mean scores followed by the public schools with SFP and finally the public schools without SFP had the least mean score. This shows that the type of school positively influenced their academic performance.

RECOMMENDATION

From the study the following recommendations were drawn.

a) There is need for introduction of SFP in all public schools since schools with the programme has been noted to have good performance.
b) There is need for all stakeholders to improve performance in public schools despite the unavailability of School Feeding Programme (SFP).

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