
School Feeding Program Influence on Performance of Learners in Primary School Education in Baringo County of Kenya**Kokwee Zachary Kiprotich***
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Abstract: The purpose of the study was to establish the extent to which school feeding programmes influence performance of learners in primary school education in Baringo County. The study concludes that feeding programs enhance pupil's participation in class assignment duties and discussion. There are only a few meals provided during the day hence pupil do not fully participate in class work rendering to low performance, the healthy pupils in the center are always active and perform well in the exam and a feeding program is important than other factors towards the improved performance. The findings of this study may be of use to the various primary schools for it would assist them understand better the issues related to school feeding programmes. This would see school managers in the various centres provide learners with balanced feeding programs and create awareness to parents on its importance to proper learning and holistic development of their children. The study would also go a long way to helping the government in making relevant policy to safeguard the wellbeing of primary school learners by providing well-balanced feeding programs to these centres as well as budgetary allocation to the same.

Keywords: School Feeding Program, Performance of Learners.

INTRODUCTION

Locally, there are few studies related to school feeding programmes effect on participation of learners in schools. For example, Nkinyangi [1] did a study on socio-economic determinants of repetition and early school withdrawal at the primary school level and their implication for educational Planning in Kenya.

Another study by Donald [2] on randomized controlled trial of Kenyan pre-schoolers demonstrated that children receiving breakfast scored 8.5% higher in school participation than a control group. This study therefore sought to find out the impact of school feeding programme on participation of learners in primary school education in Mogotio District-Baringo County. The government recently introduced School Feeding Programme home grown in Mogotio District in schools that had been left out by the WFP Project, as an intervention for improving on effective schooling in view of the inconsistent and unreliable rains especially after the pulling out of School Feeding Programme, WFP due to increase in the number of dependants.

The government cautioned that the programme would be discontinued when the situation improves. Pupils' participation in school seemed to be clearly affected by the availability or non-availability of food at home or at school. Out of the five divisions of Mogotio District, the programme only covered three divisions i.e. Kisanana, Mogotio and Emining. Due to the hardships experienced in the district, the government made an effort and introduced SFP in all

schools in the three divisions as a way of enhancing education access and academic performance among learners. A need to provide empirical evidence of the benefits of the programme in the face of the likely termination or discontinuation of the programme was seen to be necessary. The study sought to investigate the situation in the district to establish if there was any relationship between SFP on one hand and enrolment, attendance, retention and academic achievements on the other hand.

METHODOLOGY

The study adopted an exploratory approach using a descriptive survey design to obtain information that will be used to describe the existing phenomena. The study was done in 10 primary schools in Mogotio Division. The unit of analysis constituted of 70 respondents (Head teacher/ Heads of school feeding program, Teachers, parent representatives and pupils). Purposive random sampling was used in this case whereby all the 70 respondents were picked to fill the questionnaire. A research questionnaire was used. In this approach, the instrument was designed in such a way that there were two parts. Subject's scores from

one part were correlated with scores from the second part to test the reliability. Descriptive statistics analysis was used whereby the SPSS (Statistical Package for Social Sciences) programme is used. Tables and graphs were used to present data as was found appropriate.

Types of School Feeding Programmes

Food for Education programmes has been implemented in two basic forms: - Children are fed in school (School Feeding Programme) and families are given food if their children attend school (Food for schooling Programmes). Both programmes combine educational opportunity with food-based incentives and use food as an incentive for parents to send their children to school.

Food for education programmes provide immediate sustenance for the hungry and empower future generations by educating today's children (www.catholicrelief.org). The WFP Annual Report [3] states that SFPs throughout the world have successfully attracted children to school and retained them by offering what they would not get elsewhere. The primary objective of a school-feeding programme is to alleviate short-term hunger, enabling children to learn. School based feeding Programmes have proven effective in encouraging enrolment, increasing attention span and improving attendance in school. School feeding takes 'the hunger of the child at school only. However, the report further noted that of fundamental importance are the family members who are not schooling, adolescent girls, pregnant and lactating women whose nutrition directly affects the health of their offspring or malnourished pre-school children. Food for schooling was designed to develop long-term human capacity by making the transfer of resource to a household contingent upon attendance to school by enrolled pupils. This enables poor families to release children from household obligations so they can go to school. Apart from feeding all family members, they can sell the grain for cash to buy other needed goods such as clothing or medicine.

School Feeding Programme, a Historical Perspective

People in the country experience hunger and malnutrition for a variety of reasons; including poverty [4]. Food and nutrition assistance programmes such as Food camps, school breakfast and lunch are available in the United States of America to persons with low income. Some developing countries have infant feeding and school lunch programmes. Most developing countries, however cannot afford such programmes [4].

Del Rosso and Marek [5] noted that children with Protein - Energy Malnutrition (PEM), an insufficient intake of protein and energy are at risk of impaired learning capacity and poor school performance. The authors emphasize that hungry

children have more difficulty concentrating and performing complex tasks. Pepter [6] notes that the present system of the provision of meals for children attending school who are "not able to take full advantage" of their education because of lack of food is not a new form of poor relief nor a new addition to scholastic responsibilities. The author continues that in 1894, the London School Board appointed a committee to ascertain the number of children attending school insufficiently fed, and report there on with such suggestions for providing any other remedy. The select committee on Education (Provision of Meals) Act 1906 dates, [to local education authorities] in sec. 1:...to take such steps as they think fit for the provision of meals for children in attendance at any public elementary school in their area." In 1980, Local Education Authorities in the UK were required to provide free meals for children from families receiving supplementary benefits [7].

In the US, food aid has its roots in the disposal of surplus food in the post - World War I. Public law 480 (PL 480) was passed in 1954 to distribute this surplus to parts of the world still suffering from post war shortage. In the 1960s, PL 480 shifted to a humanitarian focus dependant on congressionally appropriated funds. In 1955, USAID developed a broad policy related to PL 480 funding but it was unclear how school feeding programme would fit in, then nearly the standalone school feeding programme were discontinued, citing little evidence of impact on other nutrition or education. SFP was left to PVO and NGO. It's the policy of USAID to fund SFP if they are part of larger national education reform [8].

Influence of SFPs on Pupils' improved Performance

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 schoolchildren: 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. A US study conducted in 1998, showed the benefits of providing breakfast to disadvantaged primary school students. Before the start of a school breakfast program, eligible (low-income) children scored significantly lower on achievement tests than those not eligible. Once in the program, however, the test scores of the children participating in the program improved more than the scores of non-participants [9].

In a study conducted by Pollitt, Jacoby and Cueto, [10], 23 malnourished and 29 well-nourished 9 to 11 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 program. 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 [10].

Short-term hunger, common in children who do not eat before going to school, results in difficulty concentrating and performing complex tasks, even if the child is otherwise well nourished. Students in school feeding programs have the potential for improved educational attainment, as evidenced by results of several randomized controlled trials. In a study done in Jamaica it was revealed that providing breakfast to primary school students significantly increased arithmetic scores. The children who benefited most were those who were wasted, stunted, or previously malnourished [11].

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 anemia and less than optimal behavior for

learning [12]. 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 IQ scores between schoolchildren previously deficient in iron and those without iron deficiencies [13].

In the case of iodine, most studies have focused on the differences in test performance between children who lived in communities with and without endemic goiter. The results show differences in favor of the non-goiter 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 [14]. Studies in Indonesia and Spain have documented similar effects on children in areas with insufficient iodine [15]. Having brought more children into school, the challenge is then for children to learn; school-feeding programs can also contribute to this, [16]. Poor health and poor nutrition among school-age children diminish their cognitive performance either through physiological changes or by reducing their ability to participate in learning experiences, or both.

RESULTS OF THE STUDY

Influence of School Feeding Program on Improved Learning

Table-1: Level of agreement on the statements related to SFPs Effect on Improved Learning

	Mean	Std. Deviation
School feeding program increase pupils participation in class assignment duties and discussion	1.4286	.50709
There are only a few meals provided during the day hence pupil do not fully participate in class work rendering to low performance	2.2857	1.14642
The healthy pupils in the center are always active and perform well in the exam	1.6190	.92066
A feeding program is important than other factors towards the performance of pupils in the center	1.5714	.74642

The research was to establish the level of agreement on the statements related to SFPs effect on improved learning. According to the study findings as presented in the table above that; School feeding program increase pupils participation in class assignment duties and discussion. There are only a few meals provided during the day hence pupils do not fully participate in class work rendering to low

performance. The healthy pupils in the center are always active and perform well in the exam and a feeding program is important than other factors towards the performance of pupils in the center presented by the mean scores of 1.4286, 2.2857, 1.6190 and 1.5714 respectively.

Inferential Statistic Analysis

Table-2: Correlation Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Attendance	0.365	0.133	0.126	0.564
Academic performance	0.257	0.066	0.055	0.697
Enrolment	0.140	0.020	0.013	0.714
Retention	0.275	0.076	0.074	0.8201

(Source: Research Data, 2014)

The above table 4.12 presents the correlation and the coefficient of determination between school feeding programme (dependent variable) and the independent variables (Attendance, academic performance, enrolment and retention). From the findings, the study found that there was a positive but weak relationship between the dependent variable and the independent variables.

Of all the four independent variables, attendance had the highest relationship with the SFPs of 0.133 followed by academic performance with a value of 0.076, then enrolment with 0.066, while retention came fourth with a correlation value of 0.020.

In addition, the study conducted a multiple regression analysis to determine the relationship between attendance, academic performance, enrolment and retention and the school feeding program (SFP).

Table-3: Coefficient of Determination (R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842(a)	.594	.472	.46

(Source: Research Data, 2014)

Predictors

Constant

Attendance, academic performance, enrolment and retention. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable- school feeding program (SFP) that is explained by all the four independent variables (attendance, academic performance, enrolment and retention).

The four independent variables that were studied, explain only 47.2% of the factors affecting school feeding program in the school as represented by the adjusted R². This therefore means that the four independent variables contribute about 47.2% to school feeding program (SFP) in the institution, while other factors not studied in this research contribute 52.8% of school feeding program (SFP) in the institution. Therefore, further research should be conducted to investigate the other factors (52.8%) that school feeding program (SFP) in primary school education.

Table-4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.47	.549		2.67	.009
	Attendance	0.57	.177	.411	3.23	.002
	Academic performance	0.20	.160	.182	1.23	.023
	Enrolment	0.03	.152	.019	.175	.0470
	Retention	0.43	.232	.196	1.871	.019

(Source: Research Data, 2014)

The figures in the above table 1.14 were generated with SPSS data analysis and established the following regression equation;

$$Y = 1.47 + 0.57X_1 + 0.20X_2 + 0.03X_3 + 0.43X_4$$

The study found that when attendance, academic performance, enrolment, and retention were kept constant at zero effectiveness of the school feeding would be at 1.47. A unit increase in attendance will be enhanced by a unit increase on effectiveness of the SFP by a factor of 0.57. A unit increase in academic performance will be enhanced by a unit increase on effectiveness of the SFP by a factor of 0.20, while a unit increase in enrolment will be enhanced a unit increase on effectiveness of the SFP by a factor of 0.3. Further, a unit increase in retention will

be enhanced by an increase on the effectiveness of the SFP by a factor of 0.43.

This shows that school-feeding program has positive relationship with attendance, academic performance, enrolment, and retention. At 5% level of significance and 95% level of confidence, enrolment had a 0.047 level of significance; improved academic performance showed a 0.023 level of significant, retention of pupils had a significant level of 0.019; while attendance showed a 0.002 level of significance hence the most significant factor that the effectiveness of the school feeding program impact on.

CONCLUSION

According to the study findings as presented in the table above; School feeding program increase pupils participation in class assignment duties and discussion. There are only a few meals provided during the day hence pupil does not fully participate in class

work rendering to low performance. Healthy pupils in the center are always active and perform well in the exam and a feeding program is important than other factors towards the performance of pupils in the center presented by the mean scores of 1.4286, 2.2857, 1.6190 and 1.5714 respectively. The findings show that School feeding program increase pupils participation in class assignment duties and discussion. There are only a few meals provided during the day hence pupil do not fully participate in class work rendering to low performance, the healthy pupils in the center are always active and perform well in the exam and a feeding program is important than other factors towards the improved performance.

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