Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools in Makueni County, Kenya

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Abstract

School Feeding Programme strategies enable primary pupils to qualify for high nutritious school meals, comprehensive health package and nutritious services. The purpose of the study was to establish how school meals programme strategies, monitoring and evaluation practices influence learner participation in Public Primary Schools in Makueni County, Kenya. The objective of the article is to examine how regular provision of meals during school days influence learner participation in Public Primary Schools in Makueni County, Kenya. The study was anchored on; Social Learning Theory. Pragmatism Paradigm guides the study as it delivers for the usage of quantitative and qualitative approaches of research. Descriptive research survey design and correlation research design were employed. Target population was 875 people comprising County Education Officers, Sub County Education Officers, and Chairpersons- Board of Management, Head teachers, Teachers and learners in SFP. Using Yamane’s formula, a sample size of 275 was drawn. Purposive sampling, simple random methods were employed to select appropriate sample size. Closed and open ended questionnaire, and interview guide were employed to gather research information. Pilot testing to assess validity and reliability of the study instruments was conducted in Machakos County. Quantitative and qualitative information were analyzed using descriptive, and inferential statistics. Data was analyzed using SPSS software version 25 and results presented. To demonstrate the strength and association of the variables under investigation, several linear regression models were used. Pearson’s Product Moment Correlation coefficient(r) was computed. The coefficient determination R² is 0.440 this is an indicator that R² was coefficient of determination of this model and it depicted that regular provision of meals during school days explained 44%. The remaining 56% was explained by other factors and the overall F statistics was 11.510. The findings were presented in tables with correlations, regressions, mean, standard deviations, frequencies and percentages. Null hypotheses was tested, and the study findings were: There is no significant association between regular provision of meals in school days and learner participation in public primary schools was rejected (P-value 0.001< 0.05) implying a statistical significant relationship between regular Provision of meals in school days and learner participation in public primary schools. The study concluded there were significant associations between regular provision of meal during school days and learner participation in Makueni county public primary schools. The study recommends that Government Ministries of Education, Health and relevant Authorities, Head Teachers, Teachers, Chairpersons need to provide regular meals and dedicate adequate resources to sustain learner participation in Public Primary Schools in Makueni County, Kenya. Further, this study on regular Provision of meals in school days and learner participation in public primary schools focused on Makueni county public primary schools only. A similar designed study targeting more other counties across the country should be conducted.

Keywords: school feeding programme, learner participation, community engagement, regular provision of meals, project intervention

1. Introduction

The level of hunger among students is decreased with adequate meal provision on daily school days. Learners must be provided with enough food throughout the day to ensure maximum participation (Lawson, 2012; &
Kimondo & Ngugi, 2019). Lack of sufficient food supplies prevents regular mealtime distribution during school hours in many schools. A healthy diet can help students' cognitive abilities, according to Anderson, Gallagher, and Ritchie (2018) in their study on School Meal Quality and Academic Performance. The school meals program may also have trouble running smoothly if there is not enough stakeholder support (Milletzi, Keney, and Amponsah, 2017; Ndung'u, 2010). The body's need for energy and nutrients should be supported by the nutrients in meals for students (Saltzman, Schossman, Brown, 2017). Due to their appearance, lack of focus, and frequent absences from class, students who do not receive regular meals during the school day are more likely to have lower participation rates.

The availability of regular meals during school hours encourages learners to attend class frequently. Food is one of the most essential needs that every person must satisfy in order for their body to operate normally and carry out daily tasks (Richardson, 2015). Students must focus on actively participating in class and maintaining a balanced, sufficient diet (Gustafson, 2012; Ghosh, 2013). A variety of foods are necessary for students' bodies to function properly, for growth, psychological fitness, protection, and energy (Ngussa, 2016). Given this, providing food during school hours is a fundamental structural principle that is incorporated into bringing about meaningful change on student participation in class. However, their focus deteriorates and their capacity to concentrate on learning is reduced if they do not eat enough nutritious food. Primary school pupils should be provided with wholesome food that satisfies their nutritional needs and protects their health throughout school days. Consequently, one of the measures taken by governments in both developing and developed nations to improve learner performance is the provision of free or subsidized school meals (Bertrand, 2019). However, their focus deteriorates and their capacity to focus on learning is reduced if they do not eat enough nutritious food. When kids aren't eating well-balanced meals, they often become redundant and perform worse in school. In order for children to learn effectively, the government must provide balanced meals (Owusu et al, 2016). Adequate nutrition not only promotes health but also raises student participation in the classroom. The study focuses on providing year-round meals that are secure and sufficiently nutritious, how frequently meals are served during school hours, and accessibility of food, standard of the meals served, household consumption scores, and learner participation in class.

2. Literature Review

Regular meals must be provided to learners in order for them to participate in all school activities as intended by the government and other interested stakeholders in the nation. Participation in the school feeding program in public primary schools is essential, and if it is not accompanied by the proper nutrition education, regular lunchtime meals, and the involvement of smallholder farmers, it results to a negative impact on the attendance of students (Ngussa, 2016). However, a school feeding that does not consistently integrate other strategic programme approaches that eliminate economic, social, and cultural barriers to health and learning would not achieve the specified goals that substantiate and justify school feeding initiatives. Students who lack the necessary information about wholesome food and good environmental hygiene do not benefit from SFP strategies (Mourad, 2016). When they lack food at home, school-aged children from low-income families choose not to attend school (Karma, Golley, Lewis, Cassidy, Olds & Maher, 2018).

Food insecurity and lack of healthy food options limit the amount of food provided to students in public primary schools in arid and semi-arid regions, as well as the availability of different food nutrients needed for balanced meals (Bramley, Treanor, Sosenko, & Littlewood. 2021). It is frequently impossible to serve meals to learners every day due to lack of food availability. Regular meals are served during school hours to encourage learners to participate in class. However, a study on relationship between the quality of school meals and academic achievement by Anderson, Gallagher, and Ritchie (2018) found evidence that high-quality diets improve learners' cognitive abilities. Lack of concentration is probably brought on by the inability to serve meals during school hours. This study aimed to determine how learner participation in Public Primary Schools in Makuenei County, Kenya, is influenced by the availability of meals during school hours.

Participating in a school feeding program with smallholder farmers makes it easier for them to access dependable markets, which raises their income levels. In order to reduce hunger, market participation also integrates farmers' inputs and outputs of agricultural goods in order to enhance food production for learners in this Arid and semi-arid areas in Makuenei County, Kenya. The production capacity of smallholder farmers is jeopardized by poor market access, unpredictability in local markets, lack of food production diversification, and low consumption of locally produced foods (Muthaa, 2015). Smallholder farmers' market participation in Makuenei County is restricted to the neighborhood because there are few transactions of selling prices there, which increases the risks of investing in the production of a variety of foods. The smallholder farmer gains are very minimal rendering most of them abandon the farming activity. This drives the researcher’s initiative on assessing how best smallholder farmer’s
engagement in school feeding programme could improve learner participation in Public Primary Schools in Makueni County, Kenya.

Monitoring and Evaluation procedures are essential for achieving the stated goals. This increases the effectiveness of timely program success reviews. Lack of planning for the M & E events jeopardized the consistency of the school meal program. Additionally, poor planning is a major factor in the failure of most businesses. Insufficient allocation of expenditures is another problem. This is a major problem with program expansion on its own (Kisirkoia & Odhiambo, 2016). The school feeding program was ineffective because the methods used to disseminate data were not verified. Delays in feedback impact the tracking and use of assessment data, which delays, if any, decisions about program changes. No changes are made to the feeding program because the stakeholders are never informed of information from the national government's ministry of education. Due to this, school feeding is often not progressive in public primary schools, which prevents it from meeting the program's objectives. (Mahama, 2017). Most service providers for the school feeding program lack the knowledge required to select balanced meals for a child's healthy development. The findings show that M&E practices are not followed, necessitating further research into how school feeding program strategies and M&E practices affect learner participation in public primary schools in Makueni County, Kenya.

2.1 Theoretical Framework

The study was anchored on social learning theory

2.1.1 Social Learning Theory

Bandura, a psychologist known for his work on how people learn through reinforcement, conditioning, and punishment, founded the theory in 1977. He notes that imitation, observation, and modelling are how most human behavior are learned. Bandura further argues that what needs to occur on an observable behavior needs to be learned. He specifically discussed the four steps that are required in this case: motivation, retention, attention, and reproduction. The learner needs to pay attention, and if they are disturbed, they lose interest, which results in poor learning quality. Because of its similarities to behaviorist theories and its focus on the cognitive aspects of learning, social learning theory is regarded as one of the cognitive dominant behaviorist theories.

The school feeding program strategies, was supported by the social learning theory because learning activities demand a lot of concentration. A new behavior can be developed by observing and imitating others as indicated in social learning theory, which elaborates on the learning process and social behavior. In this study, school feeding practices were found to affect students' attendance at class. Based on this theory, the evolution of human cognition is influenced by social factors including cognition, emotion, genetics, conduct, and ecological activities. As a result, the context of providing nutritious meals, nutrition education, providing meals during school hours, and smallholder farmer engagement models the behavior of students in the classroom. Besides that, Edinyang, Unimke, Ubi, Opoh, and Iwok (2015) noted that social studies is a field of study that focuses on how people interact with their environment and seeks to provide them with knowledge, values, and methods for documentation. This helps students build self-efficacy that is grounded in social learning theory and gives them confidence in their capacity to complete various tasks in the classroom (Kurt, 2019).

2.2 Conceptual Framework

The study conceptual framework is represented in figure 1.

![Conceptual Framework](image_url)

Figure 1. Conceptual Framework for school feeding programme Strategies, Monitoring and Evaluation Practices and Learner participation in Public primary Schools
3. Methodology

The study article employed pragmatism paradigm which practice non-committal structures of philosophy. In this regard, pragmatism favours the use of mixed methods research as opposed to using only one type of qualitative or quantitative data collection and analysis (Creswell, 2014). The study adapted descriptive survey research design and correlational research designs. The ability to use both descriptive and inferential methods for these two designs has prompted their popularity. A descriptive survey was employed in identifying the population under investigation (Shield, Patricia & Rangarjan, 2013). According to Hartling, Chisholm, Thomson, & Dryden (2012), a descriptive survey design is employed for describing the features of the population being observed as well as the frequency of occurrence of the phenomenon as it occurs naturally, in order to uncover the inconsistencies.

The unit of analysis is the ongoing and completed school feeding projects, while the unit of inquiry included the Head Teachers, Teachers, Learners, education county officers and the BoM members. A sample size of 275 respondents was derived from the target population of 875 people by use of Yamane formula of 1967. The data was collected by use of a questionnaire and interview guide. Purposive sampling was employed to Head Teachers and county officials who have an in-depth information about the school feeding programme.

The information was gathered in both qualitative and quantitative forms, double-checked for accuracy, coded, and subjected to thematic analysis. Quantitative data was analyzed using descriptive and inferential statistics, with the attributed to significant being conveyed in form of tables using frequency range, algebra means, and standard deviation. Inferential analysis were acquired using Pearson's Product Moment correlation, and the F-test was used to test hypotheses.

Both qualitative and quantitative data explained the influence of Regular Provision of Meals during School days and Learner Participation in Public Primary Schools. Data was analyzed by use of SPSS programme version 25 for actual analysis to be carried out. Data was subjected to normality test done through checking and found to follow the normal distribution making accurate and good information.

The degree of correlation between the independent predictor variable and the dependent variable was expressed by Pearson's Product Moment correlation coefficient (r). In order to test at a 95% level of confidence and a significance level of 0.05, a two-tail test was used, which allowed for influence to come from either a positive or negative direction. The simple regression method was used to analyze the linear relationship in the hypothesis, and Pearson's Product Moment Correlation was used to interpret the findings. Almost all quantitative analyses of data are built on the foundation of descriptive statistics and straightforward graphics analysis. An analysis of correlation is used to determine the relationship between the independent and dependent variables.

Interpretation of the results for the linear relationship of the study was based on: for a weak correlation $r$ ranging from +0.10 to 0.29; moderate correlated between +0.30 to +0.49; while strong correlation from +0.50 to +1.0) Stanley & Daniel, 2005). Hence, $r = 0.41$ implies a positive moderate relationship between Regular Provision of Meals during School days and Learner Participation in Public Primary Schools.

4. Results

The main goal was to establish the extent to which Regular Provision of Meals during School days influence Learner Participation in Public Primary Schools. There were 275 questionnaires which were delivered to the respondents but only 251 were fully filled and reverted. They represented a return rate of 91% demonstrating enough analysis and generalization of results to the population. The results are in tandem with studies by Richardson (2005) who states that a return rate of 50% is sufficient.

4.1 Overall Descriptive Analysis of Learner Participation in Public Primary Schools

As pertains to Learner Participation in Public Primary Schools food programme the respondents were subjected to several statements to solicit their opinions on a likert scale of 1-5 whereby: Strongly disagree(SD)=1, Disagree(D)=2, Neutral(N)=3, Strongly Agree(SA)=4, Agree(a)=5 as depicted in Table 1.
As shown in Table 1, the ten statements generated enough data on Learner Participation in Public Primary schools. The means of the statements summed up were used to compute the composite mean and standard deviations that resulted to 3.03 and a standard deviation of 1.32, which were both marginally lower than the composite mean of 3.30 and standard deviation of 1.29, obtained for this line item. This suggests that the opinions being gathered were convergent. It also implies that regular provision of meals in school days increases high enrolment and learner participation in classroom activities. The intervention of the food programme was vital since it encouraged learner participation, retention, high enrolment and reduced absenteeism.

Learners and parents who engage in small-scale farming have benefited greatly from food program interventions. According to the study's findings, regular meals during school days were greatly improved, which greatly facilitated the transition of learners to the next class. There were some areas that required improvement, such as providing meals to the entire school rather than just a few classes, such as classes seven and eight. Since they were able to focus on their schoolwork and weren't absent during school hours, the majority of learners have significantly improved their academic performance.

The results of the conducted interviews showed that there were conflicting reports on the regular provision of meals during the school days on some learners who were unable to attend the school on a regular basis. Some students' daily attendance suffered as a result of their absences, which led to poor performance in class assignments and also in major exams.

The interview also revealed that some learners did not get any meal at all from their homes thus affecting their movement to school in time and on daily basis. However this was cubed by the school feeding programme intervention.

4.2 Overall Descriptive Analysis of Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools

Every child needs to eat well in order to have proper growth and mental development, so it is extremely important that meals are regularly provided during school hours. Table 2 represents the responses.
As shown in Table 2, the ten statements generated enough data on Learner Participation in Public Primary schools. The means of the statements summed up were used to compute the composite mean and standard deviations that resulted to 3.66 and a standard deviation of 1.21, which were both marginally lower than the composite mean of 3.30 and standard deviation of 1.29, obtained for this line item. This suggests that the opinions being gathered were convergent. It also implies that regular provision of meals in school days increases high enrolment and learner participation in classroom activities. The intervention of the food programme was vital since it encouraged learner’s participation and reduced absenteeism.

Statement (1) that foodstuffs are sourced from neighboring shops had a mean of 3.75 and a standard deviation of 1.21. This was higher than the composite mean of 3.66. The implication of these results to the study is foodstuffs are sourced from neighboring shops hence positively influencing Learner Participation in Public Primary Schools food programme.

Second Statement on food donations come from NGO’s (WFP) recorded mean of 3.61 while the standard deviation was 1.31. The results show mean of 3.61 lower than 3.63 achieved composite mean. The implication of these results to the study is food donations come from NGO’s (WFP) thus leading a positive influence on Learner Participation in Public Primary Schools food programme. The findings support studies done by Richardson, (2015) who found out weather change is characterized by heat waves, severe famines, floods and other life-threatening weather phenomena that cause extreme water shortages, resulting to low crop yields. This is what forces the programme implementers to source food from other sectors.

Third Statement Foodstuffs are sourced from local farmers around the school recorded a mean of 3.38 while the standard deviation was 1.24. The results show that the line item was 3.38 lower than 3.63 achieved composite mean. The implication of these results to the study is foodstuffs are sourced from local farmers hence positively influencing Learner Participation in Public Primary Schools food programme.

Fourth Statement, food sourced from suppliers who submitted tenders, items had a mean of 3.61 and a standard deviation of 1.29. According to the findings, the composite mean for the line item was 3.63, which was lower...
than expected. These findings have implications for the study because they show that food is sourced from local farmers who have submitted bids, which has a positive impact on learner participation in the school lunch program. The results show that food is obtained from suppliers who have submitted tenders because there isn't enough food produced on school farms to feed everyone for the duration of the term.

Fifth Statement, there is a backup measure to support food supply recorded a mean of 3.61 while the standard deviation was 1.29. The results show that the line item was 3.78 greater than 3.63 achieved composite mean. The implication of these results is that when there is no enough food the school sources for extra food from other areas to avoid learners missing lessons.

Sixth Statement, a mean of 3.61 and a standard deviation of 1.29 were recorded for students who receive daily lunch. According to the data, the line item's value was 3.63 points higher than the composite mean's actual value of 3.61. These findings suggest that when students are given lunch every day, they attend class regularly, their growth is unaffected, and learning proceeds without a hitch.

Seventh Statement, portions of food provided to students for take-home consumption had a mean of 3.61 and a standard deviation of 1.29. According to the findings, the line item's value was 3.75 more than the achieved composite mean of 3.61. The study's conclusions implied by these findings, which show that most students bring some food for their children at home. This indicates that the school feeding program serves lunch to other children in addition to those in the designated classes who have siblings enrolled in primary schools.

Eighth Statement Food is always available in school recorded a mean of 3.61 while the standard deviation was 1.29. The results show that the line item was 3.91 higher than 3.63 achieved composite mean and standard deviation of 1.18. The implication of these results to the study is when food is available is schools learners are able to perform learning activities comfortably thus positively influencing Learner Participation in Public Primary Schools food programme.

Ninth Statement, the average daily meal served to students had a balanced diet, with a mean of 3.61 and a standard deviation of 1.29. The outcomes demonstrate that the line item was 3.72 more than the achieved composite mean of 3.63. These findings have implications for the study because they show that the daily meals provided to students have a balanced diet that improves cognitive thinking abilities. This means that all students who eat these meals will be able to think clearly and perform better in their academic work.

Tenth Statement Learners are provided with diverse selection of foods recorded a mean of 3.61 while the standard deviation was 1.29. The results show that the line item was 3.63 same as 3.63 achieved composite mean however they differed in standard deviation of 1.21 lower than the overall deviation. The implication of these results to the study is Learners are provided with diverse selection of foods are able to grow well hence positively influencing Learner Participation in Public Primary Schools food programme.

Eleventh Statement, food provided is sufficient recorded a mean of 3.61 while the standard deviation was 1.29. The results show that the line item was 3.58 lower than 3.63 achieved composite mean. The implication of these results to the study is when food supply is sufficient it means that all learners are well feed and in good health hence positively influencing Learner Participation in Public Primary Schools food programme.

Twelfth Statement, food provided to learners is safe recorded a mean of 3.61 while the standard deviation was 1.29. The results show that the line item was 3.67 greater than 3.63 achieved composite mean. The implication of these results to the study is that if learners are feed with safe food then issues of health are catered for hence good performance of learning profound.

4.3 Correlation between Regular Provision of Meals during School Days and Learner Participation in Public Primary School

A correlation analysis conducted to establish the direction and the magnitude of the relationship between Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools. The results of correlation analysis presented in Table 3.
This section sought to obtain information on Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools. The relationship between Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools was computed through Pearson’s correlational analysis method. Table 3 summarizes the statistical outputs.

The study found a weak positive overall correlation 0.210** which was statistically significant as (P-Value=0.001 < 0.05); implying there is a significant correlation between regular provision of meals during school days and learner participation in public primary schools, leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis hence the research results conclude there is significant association between regular provision of meals during school days and Learner Participation in Public Primary Schools.

The model sought to determine how regular provision of meals during school days and learner participation in public primary schools. Simple linear regression was adopted to investigate how Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools. Regression analysis was computed on Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools. Table 4 represents the outcome.

The Model summary Table 4 suggest that there is a positive correlation (R²=0.440) between Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools and those predicted by the regression model. The ANOVA data shows that F=11.510, Regular Provision of Meals during School Days was significant in estimating Learner Participation in Public Primary Schools since p=0.001<0.05. Thus, the model was fit in predicting the dependent variable.
4.4 Inferential Analysis of Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools

The following hypothesis were tested using linear simple regression model to satisfy the objective.

i) \( H_0 \) Regular Provision of Meals during School Days has no significant relationship between Learner Participation in Public Primary Schools in Makueni County, Kenya.

ii) \( H_0 \) Regular Provision of Meals during School Days has significant relationship between Learner Participation in Public Primary Schools in Makueni County, Kenya.

The mathematical model that used for testing the null hypothesis was linear regression model as adapted in table 4. The substituted model is:

\[
\text{Model: } Y = 2.376 + 0.75X_1 + \epsilon \text{ where,}
\]

\[Y = \text{Learner Participation in Public Primary School}\]

\[X_1 = \text{Regular Provision of Meals during School Days}\]

\[\epsilon = \text{Error term.}\]

The findings of the third objective linked to the previous empirical investigation that was reviewed earlier to examine how provision of meals in school days influence learner participation in public primary schools in Makueni County, Kenya. Learners require a variety of food selection for the body to function properly, growth, psychological fitness, protection, and energy (Ngussa, 2016). The provision of free or subsidized school meals is therefore one of the policy initiatives taken by governments in both developing and developed countries to improve learner performance (Bertrand, 2019). A study by Baluka et al. (2015) in Uganda found that higher learning levels had a greater understanding and different attitudes towards food availability and the provision of meals in specific regions. This is supported by Gallenbacher (2018) who found that the impact of school feeding programme is negatively impacted by lack of adequate provision of quality meals. The study determined that Regular Provision of Meals during School Days had significant influence on Learner Participation in Public Primary School. The study findings further showed that the existence of a strong positive linear correlation between Regular Provision of Meals during School Days and Learner Participation in Public Primary Schools. The implication of the results clearly indicates that by providing regular meals to learners improved their cognitive skills, psychological perspective and active participation in classroom activities. In relation to the foregoing comparable studies, the current study has adduced empirical evidence in support of their earlier findings, despite no similar studies have been conducted in Makueni County, Kenya.

5. Conclusion

The study concluded there were significant associations between regular provision of meals during school days and learner participation in Makueni county public primary schools.

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