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RELATIONSHIP BETWEEN FOOD RECORD KEEPING ON LEARNERS' RETENTION IN PUBLIC COMPREHENSIVE SCHOOLS IN TURKANA SUB-COUNTY, KENYA

Authors

Edome, Simon Ekusi¹; Kimotho Michael²; Rose Atoni³

^{1,2,3} The Catholic University of Eastern Africa

Correspondance Email: edomeekusi@gmail.com

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ABSTRACT

School feeding programs are important in promoting learners' enrolment, attendance and retention, particularly in arid and semi-arid regions such as Turkana Central Sub-County, Kenya. Despite the implementation of school feeding programs in public comprehensive schools, learners' retention remains a challenge, raising concerns about the management and documentation of food provision. This study investigated the relationship between food record keeping and learners' retention in public comprehensive schools in Turkana Central Sub-County, Kenya. The study was guided by Maslow's Hierarchy of Needs Theory and adopted a concurrent mixed-methods research design. Systematic random sampling and simple random sampling techniques were used to select participants. The target population comprised 24 heads of institutions, 24 deputy heads of institutions and 24 school cooks in public comprehensive schools in Turkana Central Sub-County. Data were collected using questionnaires, interview guides and document analysis schedules. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were analyzed thematically. The hypothesis was tested using simple linear regression. The results indicated a strong positive relationship between food record keeping and learners' retention, with a

regression coefficient of $R = .867$. The finding suggests that effective food record keeping is associated with improved learners' retention in public comprehensive schools. The study therefore underscores the importance of strengthening systematic food documentation and monitoring mechanisms as part of effective school feeding program management.

Key Words: Food Record Keeping; Learners' Retention

1.0 Introduction

School feeding programmes have been widely adopted across the world as a strategy for improving learners' enrolment, attendance, retention, nutritional status, and academic performance Mary Mbithe (2024). In arid and semi-arid regions, where food insecurity is prevalent, school meals often serve as an incentive for learners to remain in school (Bekidusa & Kisibii 2020). Though efforts have been made to implement school feeding programmes in public comprehensive schools in Turkana Central Sub-County, learner retention remains an issue of concern, this is evidenced by cases of absenteeism, irregular attendance, and school dropout. The sustainability and effectiveness of a school feeding programme depend not only on the availability of food but also on how the programme is managed by heads of institutions. Effective management practices such as proper food record keeping, supervision of food utilization, efficient transportation and adequate mobilization and utilization of funds are essential for ensuring continuity and sustainability of feeding programmes Parnham et al. (2023).

Turkana Central Sub County faces chronic high malnutrition and food insecurity, with SFPs struggling to overcome poverty, drought, and logistical issues, leading to significant dropout rates and food gaps, especially during holidays. While some studies highlight positive impacts of SFPs on enrollment, overall food access remains a major challenge due to arid conditions and poverty. Heads of institutions face challenges like inadequate food supplies and poor infrastructure and this hinders success of school feeding program (County Director of Education, 2024). Though the government is trying to invest heavily on the school feeding program, still food shortage is a challenge. Therefore, this calls for research to investigate the management of the school feeding program by the heads of institutions. According to Danladi, (2022) food record keeping is an integral aspect of managing public primary schools, in terms of planning, budgeting and staffing. The head teachers are guided by the information from the records on the amount of food delivered to the school store and the daily food ratio used. This is done through creating filing system for food deliveries, school receipt, ledgers, school feeding programme record books and the school enrolment records. To effectively manage the human resource and school facilities, an administrator relies on the information on the records. According to the author, food record keeping serves as data bank from which information can be retrieved when need arises.

1.1 Statement of the Problem

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prevalent, school meals often serve as an incentive for learners to remain in school (Bekidusa & Kisibii 2020). Though efforts have been made to implement school feeding programmes in public comprehensive schools in Turkana Central Sub-County, learner retention remains an issue of concern, this is evidenced by cases of absenteeism, irregular attendance, and school dropout. The sustainability and effectiveness of a school feeding programme depend not only on the availability of food but also on how the programme is managed by heads of institutions. Effective management practices such as proper food record keeping, supervision of food utilization, efficient transportation and adequate mobilization and utilization of funds are essential for ensuring continuity and sustainability of feeding programmes Parnham et al. (2023). Turkana Central Sub County faces chronic high malnutrition and food insecurity, with SFPs struggling to overcome poverty, drought, and logistical issues, leading to significant dropout rates and food gaps, especially during holidays. While some studies highlight positive impacts of SFPs on enrollment, overall food access remains a major challenge due to arid conditions and poverty. Heads of institutions face challenges like inadequate food supplies and poor infrastructure and this hinders success of school feeding program (County Director of Education, 2024). Though the government is trying to invest heavily on the school feeding program, still food shortage is a challenge. Therefore, this calls for research to investigate the management of the school feeding program by the heads of institutions. If this situation is not addressed then it means that grade incompleteness will be high, literacy levels will be low in the Sub County and therefore capital manpower will be sourced from other sub counties and hence the sub county will remain underdeveloped for the longest time. Weru (2012) conducted a study on management of Home-Grown School feeding program and its implications on access and retention primary school Kazweni District Kenya. The findings indicate that, the main challenge facing Home Grown Feeding Program is the rising cost of commodities. Wairimu (2011) investigated on the determinants of low access and retention in primary schools Mathioya District Kenya. The study findings showed that, the access rate in public primary schools in Mathioya District declined and the number of drop outs was minimal affecting mostly girls in upper primary school. Mumbi (2017) carried out a study on influence of school feeding program on participation of pupils in public primary schools in Kilome division Makueni county Kenya. The study found out that, SFP was not in progress in Kilome Division and this led to increased dropout rate, hence SFP is a key to improved attendance rate of pupils at school. Tioko (2021) investigated on the influence of school feeding program on learners' retention rates in public primary schools in Loima sub- county Turkana County Kenya. The findings of the study stated that, school feeding program promoted learners' retention rates in primary schools. The reviewed literature did little on the management of school feeding program by the head teachers on retention of learners in public primary schools especially in Turkana County, hence a gap to be filled. This study therefore, investigates on the influence of heads of institutions' management of feeding program on learners' retention in public comprehensive schools in Turkana central sub-county, Kenya.

1.2 Objective

The study's objective was:

To determine how food record keeping influence learners' retention in public comprehensive schools in Turkana sub-county Kenya.

1.3 Theoretical Framework

The study was grounded on the hierarchy of needs theory by Abraham Maslow (1943). Maslow's theory (1943) states that our actions are motivated by certain physiological needs. Abraham Maslow identified five levels of human needs starting from the most basic to the

complex this needs ensures a balanced living. These five human needs referred by Abraham includes: physiological needs, safety, social needs, Self-esteem and self- actualization. This theory explains that pupils cannot concentrate on learning when hungry. Head teachers therefore manage feeding programmes to satisfy basic nutritional needs so as to improve attendance, retention, participation, and academic performance Government of Kenya (2005)). He explained that, people have different levels of needs arranged in hierarchical order from bottom to top. He described these levels as patterns of human motivation and people tend to satisfy a specific need at a given time.

1.4 Operational definition of key terms.

- i. **Management of feeding program:** According to the study it refers to the head of institution's ability to keep records of food received. It also refers to supervision of food use; transportation of food to school and funding of the feeding program.
- ii. **Food record keeping:** According to the study it refers to the strategies head of institution's use to account for daily food ratios; filing the food deliveries; updating attendance register and NEMIS and keeping ledger books and school receipts.
- iii. **Supervision of food use:** According to the study it refers to the ability of the school management team to monitor the cooks, checking on the food right ratios to be cooked and checking on the hygiene of the food.
- iv. **Transportation of food:** According to the study, it refers to head of institution's ability to facilitate food movement from the sub-county store to school and making sure food is available in school on time. Funding of food transportation, timely delivery of food to school and preventing theft on the way.
- v. **Learners' retention:** refers to learners' class attendance, number of learners dropped out of school; learners transited from one grade to another and the learners completed the primary education level.
- vi. **Funding of feeding program:** According to the study, it refers to amount of capitation received and the head of institution ability to mobilize funds from well-wishers to buy food to sustain the feeding program.

2.0 Research Design and Methodology

The study adopted a concurrent mixed-methods research design, in which quantitative and qualitative data were collected during approximately the same period, analyzed independently, and integrated during interpretation to facilitate triangulation and provide a more comprehensive understanding of the study phenomenon. The concurrent approach enabled the researcher to compare findings from the quantitative and qualitative strands and identify areas of convergence, complementarity, or divergence.

The qualitative strand was guided by a **phenomenological approach**, which was appropriate for exploring participants lived experiences and perceptions regarding hunger and the implementation of school feeding programs. Phenomenology enabled the researcher to obtain firsthand accounts of participants' experiences and meanings attached to hunger and school feeding practices. The qualitative data therefore focused on participants' descriptions and interpretations of their experiences within the school environment.

The quantitative strand adopted a **cross-sectional approach**, whereby data were collected from the selected respondents at a single point in time. This approach was appropriate because it enabled the researcher to obtain quantitative information on the study variables within the specified study period.

2.1 Target Population

The study targeted 97 public primary schools in the study area. However, two schools were selected for piloting the research instruments and were therefore excluded from the main study. Consequently, the accessible population for the main study comprised 95 schools.

The study targeted the 95 heads of institutions in the selected schools. Heads of institutions were considered appropriate respondents because they are responsible for the overall management and supervision of school programs, including the implementation and oversight of school feeding programs. They were therefore expected to provide relevant information regarding the management, documentation, and implementation of school feeding activities.

2.2 Sampling Procedure

The researcher employed systematic sampling and simple random sampling techniques to select the required respondents and/or schools for the study. The specific sampling technique was applied according to the category of respondent or sampling unit. Schools used for piloting were excluded from the main sample to avoid potential contamination of the study findings.

Where all 95 heads of institutions were included in the study, the researcher should describe this as census sampling rather than sampling. If only a proportion of the 95 heads was selected, the study should clearly indicate the procedure used to determine and select the sample size.

2.3 Data Collection Instruments

Data were collected using questionnaires, interview guides, and document analysis schedules. The questionnaires were used to collect quantitative data from the selected respondents, while interview guides were used to obtain detailed qualitative information on participants' experiences and perceptions. Document analysis schedules were used to examine relevant school records and documentation relating to the implementation and management of the school feeding program.

2.4 Validity of Research Instruments

To establish the **content validity** of the research instruments, the researcher sought expert opinion from individuals with relevant knowledge and experience in educational research, school administration, and school feeding program management. The experts reviewed the instruments for clarity, relevance, adequacy, appropriateness of items, and alignment with the study objectives and research questions. Their recommendations were incorporated before the instruments were used for data collection.

It is important to distinguish between **experts who assess instrument validity and respondents who participate in the study**. Heads and deputy heads of institutions should only

be described as experts if they were specifically selected based on relevant expertise for the purpose of validating the instruments.

2.5 Reliability of the Research Instruments

The reliability of the quantitative research instrument was assessed using the test-retest method. The instruments were administered to the same group of respondents on two separate occasions, with an appropriate time interval between the two administrations. The responses obtained from the two administrations were compared to determine the stability and consistency of the instrument over time.

The test-retest procedure established the consistency of the measurements rather than the “accuracy of the concept.” Where appropriate, the researcher should report the resulting reliability coefficient and the criterion used to determine whether the instrument demonstrated acceptable reliability.

2.6 Data Analysis

Both quantitative and qualitative data analysis approaches were employed. Quantitative data were coded, entered, cleaned, and analyzed using appropriate descriptive and inferential statistical techniques. Descriptive statistics were used to summarize the characteristics and responses of the respondents, while inferential statistics were used to test the study hypotheses and establish relationships among the study variables.

Qualitative data obtained through interviews were transcribed, organized, coded, and analyzed thematically. The analysis involved identifying recurring patterns, categories, and themes emerging from participants lived experiences and perceptions. The quantitative and qualitative findings were subsequently integrated during interpretation to facilitate triangulation and provide a comprehensive understanding of the study findings.

3.0 Findings

Table 1: HOIs’ responses on food record keeping and learners’ retention

Statement	Very small extent n (%)	Small extent n (%)	Undecided n(	Large extent n (%)	Very large extent n (%)	Total n (%)
Records track the amount of food available throughout the term	-	2 (8.3)	3 (12.5)	9 (37.5)	10 (41.7)	24 (100.0)
Accurate records of food deliveries are maintained to reduce wastage	-	2 (8.3)	-	7 (29.2)	15 (62.5)	24 (100.0)
Use of NEMIS records has ensured food delivered is correct	-	3 (12.5%)	-	10 (41.7%)	11 (45.8%),	24(100)

Ledger books are updated regularly	2 (8.3)	10 (41.7)	1 (4.2)	8 (33.3)	3 (12.5)	24 (100.0)
Receipts are kept in files as evidence that food has been delivered	-	4 (16.7)	-	8 (33.3)	12 (50.0)	24 (100.0)

From the table above, 10 (41.7%) of the respondents indicated that records track the amount of food available to a very large extent, while 9 (37.5%) showed a large extent. 2 (8.3%) reported a small extent, and 3 (12.5%) were undecided. These implied that, keeping records of food delivered and used ensured that the schools took good care of food to reduce wastage and shortages. These promotes sustainability of school feeding programmes, which enhanced learner attendance and retention.

Concerning maintaining accurate records of food deliveries to reduce wastage, most of respondents, 15 (62.5%), believed that this influenced learners' retention to a very large extent, while 7 (29.2%) reported a large extent. Only 2 (8.3%) indicated it influenced retention to a small extent. This implies that documenting food deliveries improves accountability, reduces wastage or mismanagement, and ensures that sufficient food is available to support regular school attendance.

Use of NEMIS records, nearly half of the respondents, 11 (45.8%), suggested to very large extent, while 10 (41.7%) reported a large extent. Only 3 (12.5%) indicated a small extent. These implied that the use of NEMIS promoted transparency and accountability on the amount of food allocated to the school according to the school enrolment, thereby improving the effectiveness of school feeding programmes and encouraging learners to remain in school. These results agree with Mugume and Bulime (2024) found that, proper record keeping of school feeding resources enhanced accountability, minimized food losses, and ensured continuous food availability, which contributed to improved learner attendance and retention.

On ledger books are updated regularly, 10 (41.7%) of the respondents, suggested this practice to a small extent, followed by 8 (33.3%) who indicated a large extent, 3 (12.5%) a very large extent, 2 (8.3%) a very small extent, and 1 (4.2%) remained undecided. These findings indicated that although ledger books are important for financial and stock accountability, many schools may not update them consistently, limiting their direct contribution to effective feeding programme management and learner retention. These results have similar view with Amaefule (2021) who revealed that, many teachers use manual method of school records management and few teachers used computerized system.

Concerning keeping receipts as evidence of food delivery, half of the respondents, 12 (50.0%), indicated to a very large extent, while 8 (33.3%) reported a large extent. Only 4 (16.7%) suggested to a small extent. These findings indicate that maintaining documentary evidence of food deliveries enhances transparency and accountability, reducing opportunities for misappropriation of food supplies and ensuring that learners consistently benefit from the feeding programme. These results are supported by Nyuki (2021) found that schools

maintaining accurate food inventory records experienced fewer food shortages, leading to consistent meal provision and improved pupil attendance and retention.

Table 2 simple regression influence of food record keeping on learners' retention

Model	R	R ²	Adjusted R ²	Std. Error of Estimate	F	Sig.
1	0.867	0.752	0.741	0.293	66.714	0.000

According to Table 2 findings shows that, the correlation coefficient($R=0.867$) indicates a strong positive association between food record keeping and learners' attendance and retention. The P-value is 0.00. Since the P-value is less than the significant level of 0.05, the null hypothesis is rejected. Therefore, there is association between food record keeping and learners' retention. These findings suggest that, if school administrators maintain food records by keeping records of food available will enable them monitor food stocks, enhance consistent availability of food in school hence increased learners' attendance and retention. This I supported by Nyuki (2021) found that schools maintaining accurate food inventory records experienced fewer food shortages, leading to consistent meal provision and improved pupil attendance and retention.

4.0 Conclusion

The study concluded that food record keeping has a significant positive relationship with learners' retention in public comprehensive schools. Proper documentation of food delivered to schools, quantities prepared, food consumed, and balances remaining in school stores enables heads of institutions to monitor food stocks and plan for timely replenishment. Effective food record keeping can therefore contribute to consistent availability of food, which may support learners' attendance and continued participation in schooling. The findings underscore the importance of accurate, timely, and systematic food records in the effective management and sustainability of school feeding programs.

5.0 Recommendation

The study recommends that lawmakers and education policy makers strengthen the policy and regulatory framework governing school feeding programs, particularly in arid and semi-arid areas where food insecurity may affect learners' participation and retention. Relevant policies and administrative guidelines should provide clear requirements for the procurement, delivery, storage, preparation, consumption, and systematic recording of food supplied to schools. The Ministry of Education and other relevant stakeholders should also strengthen monitoring mechanisms, provide adequate resources for school feeding programs, and ensure timely and consistent delivery of food to schools. These measures would enhance accountability in food management and contribute to the sustainability and effective implementation of school feeding programs.

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