The School Feeding Program and Learners Academic Performance in Government Primary Schools in Dokolo District

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A Dissertation Submitted to the Directorate of Research and Graduate Training in Partial Fulfillment of the Requirements for the Award of a Degree of Master of Education in Curriculum Studies and Foundations of Education of Gulu University

JUNE, 2026

Declaration

I, Bosco Odongo, declare that this Dissertation titled *"School Feeding Program and Academic Performance of Learners in Government Primary Schools in Dokolo District"* is my original work and has not been submitted to any other institution of higher learning for any academic credential except where the works of other scholars have been consulted for the purpose of making comparisons and in-depth analysis on the problem at hand and giving suggestions on what to be done.

Signed: .....Bosco.....Date..17/07/2026

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Approval

This Dissertation titled *"School Feeding Program and Academic Performance of Learners in Government Primary Schools in Dokolo District"* has been prepared under our supervision and is hereby approved for submission to the Department of Curriculum, Education Technologies and Media in partial fulfillment of the requirements for the award of Master of Curriculum Studies and Foundations of Education.

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Dedication

I devotedly dedicate this research work to the cherished memory of my late parents Silverio Odongo Atwee and Pilda Acio, whose guidance and sacrifices laid the foundation of my education and continue to inspire me even in their absence. To my dear wife Grace Odongo and our children by the Names Joshua Odongo, Prechilla Acio, Daphine Agol, Lorna Awino, Elvis Ogwal, Daniella Ekul and Emmanuel Okello, your love, patience, and encouragement have been my constant source of strength throughout this journey. I also extend this dedication to my friends, both within and outside the university, for their unwavering support and encouragement in moments of challenge. To my lecturers in the department and my supervisors, I am profoundly grateful for your guidance, mentorship, and constructive criticism that sharpened my academic path. Above all, I dedicate this work to the Almighty God, whose grace, protection, and favor have kept me through every stages of this endeavor. To each of you, I owe this milestone.

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Abstract

The purpose of this study was to investigate the influence of school feeding programme on learner's academic performance in primary schools in Dokolo District. The study was guided by the following specific objectives; to examine the status of school feeding programme in primary schools in Dokolo District; to assess the level of learner's academic performance in primary schools in Dokolo District and to determine the relationship between school feeding programme and level learner's academic performance in Dokolo District. The study used mixed method approaches with convergent mixed method research design and data was both quantitative and qualitative data. Quantitative data was collected using questionnaires while qualitative data were collected using interviews and focused group discussion methods. Quantitative data was analyzed using SPSS version 25.0 at descriptive and inferential statistic levels while qualitative data was analyzed using thematic analysis. Results obtained showed that school feeding programme were fairly implemented in primary schools in Dokolo District (M=4.23 SD=0.54), the level of learners' academic performance was fair in Dokolo District (M=4.15 SD=0.60) and Finally there was a positive significant relationship between school feeding programme and learner's academic performance in primary schools in Dokolo District (r=. 78 $p<0.01$). The study concluded that school feeding programme is an antecedent for good learners' academic performance in primary schools in Dokolo District. The study recommended that government should allocate more resources in primary schools to support school feeding programme.

Chapter One

Introduction and Background to the Study

1.0 Introduction

Academic performance in government primary schools remains a critical indicator of educational quality and equity, especially in low- and middle-income countries where access to quality education is still a challenge. Academic performance refers to the measurable outcomes of a learner's educational attainment, often assessed through test scores, class participation, and progression rates (UNESCO, 2022). Several factors influence academic performance in government schools, including teacher quality, school infrastructure, parental involvement, and socio-economic background (Nakabugo et al., 2022). For example, in Uganda, studies have shown that learners in rural government schools often face overcrowded classrooms, lack of instructional materials, and underqualified teachers, all of which negatively impact learning outcomes (Mwesigwa & Nanyonjo, 2022). Furthermore, external factors such as household poverty and malnutrition are significant barriers to academic success, with evidence indicating that learners from food-insecure homes struggle to concentrate and perform poorly in assessments (World Bank, 2022). Interventions like school feeding programs and community-based education support have been recommended to address these disparities and improve performance.

Studies elsewhere have linked School Feeding Program with Academic Performance of learners in Government Primary Schools. These programs aim to provide nutritious meals to children during school hours to enhance their physical and cognitive development. According to the World Food Programme (WFP), school feeding is not only a means to improve nutrition but also a strategy for increasing school enrollment, attendance, and retention rates (Bundy et al., 2018). In Uganda, the Ministry of Education and Sports (MoES) has acknowledged the role

of school meals in supporting the government's objectives for universal primary education (UPE). Despite the importance of school feeding, implementation challenges such as funding constraints, inadequate infrastructure, and logistical difficulties hinder its effectiveness in many government primary schools (Gelli et al., 2019).

This chapter therefore presents Background of the study, Statement of the problem, General objective of the study, Specific objectives of the study, research questions, significance of the study, and conceptual framework.

1.1 Background of the Study

The background of the study included historical background, theoretical background, conceptual background and contextual background.

1.1.1 Historical Background

Globally, the concept of academic performance has evolved significantly over the centuries. Traditionally, academic performance was understood primarily in terms of rote learning and exam results. Over time, this has broadened to include skills such as critical thinking, problem-solving, and socio-emotional competencies. According to Bloom Taxonomy (1956), academic performance is influenced by cognitive, affective, and psychomotor domains. These domains laid the groundwork for educational assessment worldwide. In the late 20th century, global educational reforms began emphasizing measurable outcomes and performance standards (UNESCO, 2005). The introduction of international assessments such as the Programme for International Student Assessment (PISA) by the OECD in 2000 marked a shift towards data-driven evaluation of academic achievement across nations. These assessments revealed stark disparities in academic performance among countries and triggered global discourse on equity and quality in education.

In Africa, academic performance has historically been influenced by colonial legacies. Colonial education systems were often elitist and designed to serve administrative functions rather than holistic development. For instance, in British colonies, education was primarily geared toward producing clerks and low-level civil servants (Fafunwa, 1974). Post-independence, many African countries struggled to reform education systems due to limited resources, high pupil-teacher ratios, and political instability. According to Eshiwani (1993), factors affecting academic performance in Africa include poor infrastructure, teacher absenteeism, and socioeconomic barriers. In recent decades, programs like Education for All (EFA) and the Sustainable Development Goals (SDGs) have prioritized universal access to quality education for all school age going children which has maintain education to meet the basic requirements of Ugandans.

In Uganda context, Academic Performance trends are shaped by its socio-political history. During the 1970s and early 1980s, political instability under regimes like Idi Amin's severely disrupted the education sector. Schools were destroyed, teachers fled, and academic standards plummeted (Kajubi, 1992). With the introduction of Universal Primary Education (UPE) in 1997, Uganda aimed to improve access to education. While enrolment increased significantly, quality and performance suffered due to overcrowded classrooms and undertrained teachers (Nishimura et al., 2009). According to the National Assessment of Progress in Education (NAPE) conducted by UNEB has consistently reported low achievement levels in literacy and numeracy, especially in rural areas as attached to poverty, malnutrition, and insufficient parental involvement in education. (UNEB, 2020).

In Northern Uganda, particularly the Acholi and Lango sub-regions, endured two decades of armed conflict due to the Lord's Resistance Army (LRA) insurgency. This severely disrupted educational services, resulting in displacement, trauma, and destruction of schools (Ochen et al., 2011). Even post-conflict, academic performance in Northern Uganda remains lower than

the national average. Schools in this region face unique challenges such as understaffing, inadequate infrastructure, and psychosocial trauma among learners (Adelman, Gilligan, & Lehrer, 2008). Studies by Murphy et al. (2013) highlighted that education recovery in post-conflict settings requires targeted interventions, including psychosocial support and feeding programs.

Dokolo District being one of the Districts located in Lango sub-region, shares the broader challenges of Northern Uganda but also faces unique local issues. The district is predominantly rural, with widespread poverty, food insecurity, and limited access to social services, all of which impact academic performance. A study by (Odongo, 2018) on educational outcomes in Lango sub-region indicated that schools in Dokolo struggle with low literacy rates, high dropout rates, and inadequate school facilities. Akello (2021) found out that factors like long distances to school, lack of scholastic materials, and poor nutrition were strongly linked to poor academic outcomes. Efforts by the Ministry of Education and Local NGOs to improve school feeding, teacher training, and community engagement have shown promise, but systemic challenges persist (MoES, 2022).

Relatively, the concept of school feeding programs (SFPs) dates back to the late 19th and early 20th centuries. One of the earliest documented programs was initiated in Germany in 1790, where meals were provided to students from low-income families to combat malnutrition and improve educational outcomes. By the mid-20th century, the concept had gained global recognition, with countries like the United States introducing large-scale programs such as the National School Lunch Program (NSLP) in 1946 to address hunger and improve students' ability to learn in school (Gunderson, 1971).

Along the globe, SFPs have been implemented as strategic measures to combat child malnutrition and improve educational outcomes. A systematic review by Fawzi et al (2020) underscores that these programs are beneficial for the physical, mental, and psychosocial

development of school-age going children and adolescents, particularly in low- and middle-income countries. The study highlights that while SFPs are widespread, their specific benefits on educational and health outcomes require further elucidation.

In Africa, school feeding programs were introduced as part of efforts to improve enrollment, retention, and academic outcomes. The World Food Program (WFP) has played a pivotal role in supporting such initiatives, starting with pilot programs in the 1960s and scaling up to serve millions of children by the 1990s. Studies have shown that well-designed feeding programs, such as those implemented in Kenya and Ghana, have significantly enhanced school enrollment, attendance, and cognitive performance (WFP, 2021).

Significantly, SFPs have gained prominence as tools to enhance school enrollment and retention rates. The World Food Programme (WFP, 2023) emphasizes that the overarching goal of these programs is to ensure that all school-aged children have access to meals, thereby promoting health and readiness to learn. In Rwanda, for instance, the implementation of SFPs within the continuum of compulsory public education aims to address nutritional deficits and bolster academic performance among students (Marcelline, & Andala, 2022).

Focusing on East Africa, studies have demonstrated a positive correlation between SFPs and academic achievement. Research conducted in Rwanda by (Uwiringiyimana et al, 2023) reveals that school feeding interventions significantly improve learners' concentration and cognitive abilities, leading to enhanced academic outcomes. The study suggests that providing meals at school not only addresses hunger but also creates an environment conducive for learning.

Uganda's school feeding program history aligns with broader African trends. Initially driven by donor support in the 1990s, these programs aimed to increase attendance and address the challenges of malnutrition among learners Ministry of Education and Sports Uganda. (2020).

However, the sustainability of such initiatives has remained an issue due to inconsistent funding and reliance on external aid (MoES, 2019). Despite these challenges, empirical evidence suggested a positive relationship between school feeding and academic performance, as nutritional support helps learners concentrate, retain knowledge, and improve test scores (Watsemba, 2024).).

The correlation between nutrition and academic performance has been extensively documented. Poor nutrition often leads to fatigue, decreased attention span, and poor health, all of which hinder academic progress (Grantham-McGregor et al., 2017). Conversely, feeding programs improve learners' engagement by providing essential nutrients that boost energy levels and cognitive abilities. For example, a study in Ghana found that students who participated in school feeding programs had better grades and were more likely to stay in school compared to their peers without access to such programs (Gelli, A., et al. (2021).

Focusing on East Africa, studies have demonstrated a positive correlation between SFPs and academic achievement. Research conducted in Rwanda by (Uwiringiyimana et al, 2023) reveals that school feeding interventions significantly improve learners' concentration and cognitive abilities, leading to enhanced academic outcomes. The study suggested that providing meals at school not only addresses hunger but also creates an environment conducive for learning.

In Uganda, the significance of SFPs in promoting education has been increasingly recognized. The Ministry of Education and Sports, through its guidelines on School Feeding and Nutrition Intervention Programmes, underscores the role of these initiatives in enhancing access to quality education and achieving Education for All (EFA) objectives. The guidelines serve as a strategic framework for implementing school feeding programs across the country Ministry of Education and Sports Uganda, (MoES, 2020).

The historical curve of school feeding programs underscores their critical role in enhancing the academic performance of learners in government primary schools. From a global to a local context, evidence suggests that these programs contributed significantly to improved educational outcomes. However, the effectiveness of SFPs is contingent upon factors such as consistent funding, community involvement, and the integration of nutritional education World Food Programme (WFP, 2021). Further research, particularly within specific locality like Dokolo District, was essential to tailor interventions that address the unique needs of learners and optimize the benefits of school feeding initiatives.

Overall, school feeding programs have evolved into a crucial intervention for addressing educational challenges, particularly in low-income countries. They serve as a vital link between health and education, enhancing learners' engagement and academic performance while promoting equitable access to education (Mwangi, & Khamati, 2021).

1.1.2. Theoretical Background of the Study

This study was underpinned by The Theory of Maslow's Hierarchy of Needs which was proponed by Abraham Maslow, in his seminal work in 1943. Abraham introduced the hierarchy of needs, which posits that human needs are hierarchical and arranged in a pyramid structure (Maslow, 1943). These needs range from basic physiological needs to higher-order needs such as self-actualization. Maslow argued that lower-order needs, such as food and safety, must be fulfilled before individuals can progress to higher-level needs like cognitive and self-fulfillment goals. If basic needs remain unmet, individuals are unlikely to concentrate on growth and development in other areas (Maslow, 1943).

In the context of education, Maslow's theory was widely applied to explain the role of school feeding programs. These programs aim to address physiological needs by ensuring learners

have access to regular meals, thereby enhancing their ability to focus, engage, and perform academically (Mbiti, 2021).

Research demonstrated that learners who receive nutritious meals regularly are more attentive, motivated, and capable of engaging in academic activities, resulting in improved academic performance (Adelman et al., 2008). This aligns with Maslow's argument that satisfying basic needs fosters higher-order development.

Hunger and malnutrition presented significant barriers to learning, particularly in resource-limited settings like Dokolo District, where food insecurity was prevalent. Learners often attended school hungry, making it difficult to concentrate or stay throughout the day (World Food Programme [WFP], 2019). As a result, some students miss school entirely or leave early.

The school feeding program alleviated these challenges by providing meals that addressed hunger, enabling learners to concentrate on classroom activities. This approach also promoted equity in learning opportunities, especially for children from impoverished households (Gelli et al., 2019).

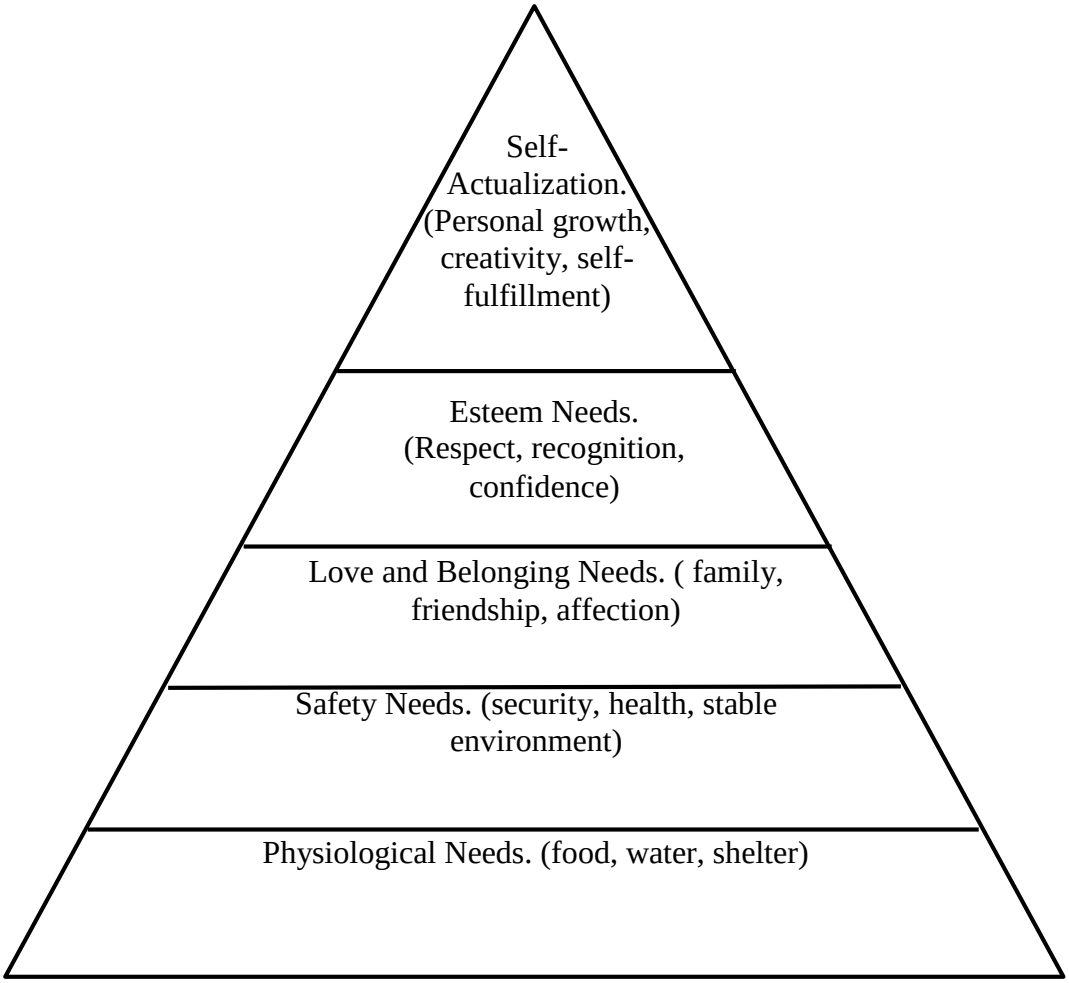


Figure 1.1: Showing Arrangement of needs from lower order to higher order

1.1.3. Conceptual Background

In the "Guidelines on School Feeding and Nutrition Intervention Programme" released in October 2024, the MoES defines school feeding as a strategic initiative aimed at enhancing access to quality education. The guidelines emphasized that feeding and nutrition programs in schools promote physiological growth, increase school enrollment, improve learning outcomes, and enhance overall cognition. The absence of such programs negatively affects child development and educational achievement, thereby compromising national economic and human development (MoES, 2024).

Mary Frances Atima,(2024) representing the MoES at the National Nutrition Forum in May 2024, stated that in Uganda, school feeding programs are primarily considered educational interventions designed to facilitate equal access to education and learning opportunities.

This definition according to the MoES underscored the multifaceted role of school feeding programs in Uganda. Beyond addressing nutritional needs, these programs are integral to educational strategies, aiming to improve enrollment, attendance, and academic performance. By ensuring that children receive adequate nutrition, the programs help mitigate barriers to learning, particularly for students from Low income families, and contribute to broader socio-economic development goals. (Atima, 2024).

Operationally to my own understanding, School Feeding Program is a planned activity where schools provide meals such as breakfast, lunch, or snacks to learners during the school day to improve their health, attendance, and ability to learn. For example, in some government primary schools in Uganda, learners receive breakfast every morning before classes begin. This meal helps them stay active and concentrate better in class because they are not studying on an empty stomach.

Alternatively, Academic performance refers to the extent to which a student has achieved their short- or long-term educational goals. It is commonly measured through examinations in term of Grades obtained, results, continuous assessments, teacher own made test and the completion of educational benchmarks such as diplomas and degrees. This performance encompasses not only cognitive achievements but also factors like discipline, motivation, and extracurricular involvement. (Gasiwo & Beinomugisha, 2024)

In their study on secondary schools in Kayunga District, Uganda, Gasiwo and Beinomugisha define academic achievement as "excellence in all academic disciplines, in class as well as

extracurricular activities," including sports, behavior, communication skills, punctuality, and arts (Gasiwo and Beinomugisha, 2024)

Academic performance is a multifaceted concept that extends beyond mere grades or test scores. It encompasses a student's overall development, including cognitive abilities, behavioral traits, and participation in various activities. Recent studies underscore the importance of factors such as discipline, motivation, and holistic development in achieving academic success. This comprehensive understanding is crucial for educators and policymakers aiming to enhance educational outcomes. (Odama, 2023)

Academic performance in my own understanding refers to how well a learner does in their schoolwork, measured through class tests, exams, participation, and sometimes behavior and attendance. For examples, if a Primary Five student scores 85% in English and 90% in Mathematics, participates in class, and submits assignments on time, their academic performance is considered high.

1.1.4. Contextual Background of the study

Nationally, Uganda’s Universal Primary Education (UPE) increased enrolment but challenges with quality and outcomes remain. According to the Uganda National Examinations Board (UNEB, 2023), the National Assessment of Progress in Education (NAPE) found that only 46.7% of Primary 3 pupils in government schools achieved proficiency in literacy compared to 88.8% in private schools. Similarly, only 51.5% reached proficiency in numeracy compared to 86.5% in private schools. Among P6 learners, only 52.5% in government schools attained numeracy proficiency compared to 82.6% in private schools. These disparities stem from overcrowding, inadequate resources, and nutritional challenges that reduce concentration and learning ability (UNEB, 2023). Numerous scholars, including (Mugisha et al. 2022), assert that school feeding programs play a vital role in reducing absenteeism and improving cognitive

performance. (WFP 2022) findings showed that schools implementing feeding programs recorded improved test scores, enrolment, and learner retention. Similarly, (Jukes et al. 2021) indicated that regular meals improve attention span and academic results, making school feeding essential for holistic academic development in public schools.

Northern Uganda has endured lingering effects of war, displacement, and underdevelopment. Despite the rollout of UPE, performance remains low due to teacher absenteeism, food insecurity, and poor infrastructure. For instance, in Kole District, a 2023 study by Adoch et al. found that school feeding particularly community-led gardens boosted learner concentration, punctuality, and performance in continuous assessments. Similarly, Ngumanawe Moses, Omedi Vincent, and Musiimenta Nancy observed that in Karamoja, feeding programs led to a 5.12-point increase in academic scores and significantly improved attendance rates. The programs were more effective when meals were regularly provided and locally sourced. However, national exams still show lower proficiency levels in this region, indicating a need for complementary inputs such as teacher training and learning materials (UNEB, 2023). Nonetheless, feeding programs have proved foundational for re-engaging children with learning in food-insecure areas.

Dokolo District reflects a microcosm of the challenges facing Northern Uganda's education system. According to the District Education Officer2024, only 16 learners in government schools achieved Grade One in the 2023 Primary Leaving Examination (PLE), highlighting major learning deficits. Factors like poor feeding, absenteeism, and lack of parental support were cited. The District Education Officer highlighted some few schools implementing feeding programs such as Agwata, Dokolo and Angwecibange primary school experienced better learner retention, higher attendance, and modest improvements in test scores. However, these interventions are often limited to upper primary classes and rely heavily on parental contributions, which are inconsistent due to household poverty. Without institutionalized

support, most schools remain unable to implement sustainable meal programs, directly affecting learner health, readiness, and national exam results. As shown by (WFP, 2022), thus structured feeding support is crucial for enhancing outcomes in marginalized districts like Dokolo.

Table 1.2: Dokolo District Local Government PLE Results Analysis for Six Years

Year	Grade 1		Grade 2		Grade 3		Grade 4		Un Graded		Div X		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
2018	226	6.9	1,182	36.2	840	25.3	666	20.4	355	14.5	23	0.7	3,292
2019	135	3.8	1,256	36.3	927	24.6	669	17.3	447	17.2	27	0.8	3,461
2020	C	O	V	I	D		1	9	P	E	R	I	O D
2021	163	4.7	1,305	35.5	640	27.6	598	21.4	364	10.1	26	0.7	3,323
2022	202	4.8	1,198	28.1	887	20.8	757	17.7	876	27.8	42	0.8	3,920
2023	185	5.2	1,016	28.4	819	23.2	610	16.4	927	26.1	26	0.7	3,583
2024													

In the above table, the results analysis shows that learners who passed in Grade 1 are fewer compared to those whose results were ungraded. This automatically imply that the rate at which learners in Dokolo District is failing at National Assessment is very high that called for immediate intervention into the system in order to address the situation.

In context of School Feeding Program, Dokolo District located in Northern Uganda, is one of the regions that continues to face educational and nutritional challenges due to high poverty levels, food insecurity, and limited infrastructure. In response, school feeding programs (SFPs) have emerged as a strategic intervention to improve both learners' nutritional status and educational outcomes in the district's government primary schools.

As of recent assessments conducted by the District Education Officer in 2022 and community-based monitoring groups, implementation of school feeding programs across government primary schools in Dokolo is uneven and largely dependent on community participation and support from NGOs. Many schools still lack a fully supported or sustained feeding program.

A district-wide survey revealed that out of 83 government primary schools in Dokolo District: Only about 23% (approximately 19 schools) implement daily school feeding programs (typically a midday meal of porridge or posho and bean s).

Around 31% (approximately 26 schools) offer meals irregularly usually once or twice a week depending on availability of food supplies or parental contributions. The remaining 46% (about 38 schools) do not have any structured school feeding program in place.

These disparities are primarily attributed to socioeconomic constraints among parents, lack of institutional funding for feeding programs, and the absence of formal government support or subsidy in the district's primary schools.

According to (Okello and Adong, 2022) in their study on school feeding in Northern Uganda, parental willingness to contribute food items or money plays a pivotal role in sustaining feeding efforts. However, in districts like Dokolo where subsistence farming is common and households face food scarcity, sustaining such programs becomes a challenge.

1.2 Statement of the Problem

Academic performance in government primary schools remains a critical concern for many developing countries, particularly in Sub-Saharan Africa. Education is a fundamental driver of social and economic development, and the foundational years of learning are vital for shaping future academic success. Over the past decades, various governments, including Uganda, have implemented Universal Primary Education (UPE) policies aimed at increasing access to education. However, despite these efforts, learners' academic performance in government primary schools continues to lag behind expectations (Nabwire et al., 2022).It was clearly known that, learners in government primary schools often performed poorly in national assessments compared to their counterparts in private schools. Factors such as poor feeding habits, large class sizes, insufficient learning materials, unmotivated teachers, and socio-

economic barriers have been consistently linked to low academic performance (Tumwine & Okello, 2022). Moreover, studies have shown that regional disparities exist, with rural schools often exhibiting lower performance levels than urban schools, further exacerbating educational inequality (Asiimwe & Mwesigwa, 2022). According to National Assessment ranking of Primary Leaving Examination (PLE), Dokolo District in 2023 and 2024 was ranked in the 4th and 3rd last position during the PLE released by the minister of Education and Sports with only 28 candidates from Government primary school getting division one and 927 being ungraded in 2023 while in 2024, only 16 candidates from government primary schools got division one and 665 were ungraded. This poor academic performance of learners in Government primary schools have been linked partly to school feeding program where according to (MoES, 2020) only 7 schools out of 60 Government primary schools were implementing school feeding programs primarily benefiting P.6 and P.7 pupils only. While previous research has addressed some of these challenges affecting academic performance of learners in Government Primary Schools, there was little knowledge about how school feeding program greatly affect academic performance of learners in Government Primary schools particularly in Dokolo District when it comes to National Assessment and Uganda at large (Uwizeyimana,, & Nkurunziza,2024). Therefore, the researcher investigated the relationship between school feeding programs and learners' academic performance in selected government primary schools in Dokolo District. Specifically, the study examined the influence of school feeding program on attendance, engagement, and academic achievement of learners.

1.3 General Objective

The study investigated the influence of the school feeding program on academic performance of learners in government primary schools in Dokolo District.

1.3.1 Specific Objectives

1. To investigate the status of school feeding program in government primary schools in Dokolo District.
2. To determine the level of academic performance of learners in government primary schools in Dokolo District.
3. To establish the relationship between school feeding program and academic the level of academic performance among learners in government primary schools in Dokolo District.

1.4 Research questions

1. What was the status of school feeding program in primary schools in Dokolo District?
2. What was the level of academic performance of learners in government primary schools in Dokolo District?
3. What was the relationship between school feeding program and academic performance among learners in government primary schools in Dokolo District?

1.5 Scope of the study

The scope of this study covered geographical scope, time scope and content scope.

1.5.1 Geographical scope

This study was conducted in Dokolo Sub County Dokolo District which is found in the Northern part of Uganda. It is bordered by Bata Town Council from the North, Dokolo Town Councilfrom the South, Okwalongwen Sub County from the East and Amwoma Sub County from the West respectively. Dokolo Sub County has been considered for studies among many other Sub Counties in the District because is the sub county that always registered the highest numbers of ungraded students when it comes to National Assessment and the rate at which

primary school learners are failing at National Examinations has reached the concern of everybody not only in Dokolo District.

1.5.2. Content scope

The study looked at school feeding program and academic performance of learners in government primary schools in Dokolo District particularly. In this study, School Feeding Program was measured by; -provision of nutritious meals, types of food given to the learners, quality of food given and frequency of the meals given while Learners Academic Performance was measured by grades obtained by students, results scored, record of continuous assessment, numeracy and literacy competences.

1.5.3. Time scope

This study covered the period of 2014 to 2025 since it's between that periods where academic performance of learners in Dokolo District has been detoriating year in year out according to the report presented by District Inspector of Schools Dokolo District during stakeholders' education conference held at Dokolo Technical School (Fredrick Siminyu, 2024).

1.6 Significance of the study

The findings of this study have significant implications for various stakeholders involved in the education and welfare of learners in government-aided primary schools.

Parents benefited by gaining a deeper understanding of their roles and responsibilities in supporting the provision of meals for their school age going children. The study sensitized them to take a more proactive roles and responsibilities in ensuring that their children receive adequate nutrition during school hours, which is critical for their educational success.

School administrators, including head teachers, School Management Committees (SMCs), and Parent-Teacher Associations (PTAs) found out that, the study was instrumental in guiding the

planning and implementation of effective school feeding programs. The insights generated enable them to adopt practical strategies for ensuring the sustainability and proper management of the feeding initiatives within their schools.

District officials and policy makers benefited from the study by using its findings to establish appropriate mechanisms for monitoring and evaluating the effectiveness of school feeding programs. This led to the formulation of more responsive policies and provided a basis for advocating support from other development stakeholders.

Learners benefited directly from the improvements in school feeding programs that resulted from the study. Access to nutritious meals at school contributed to enhanced concentration in class, increased school attendance, and improved academic achievement.

The wider community and other stakeholders, such as non-governmental organizations and community-based groups, may use the findings to advocate for greater support and resources for school feeding programs. The study may also help them better understand the needs of schools and mobilize appropriate interventions.

Finally, the researcher benefited academically through the successful completion of the study, which contributes toward the attainment of academic qualifications. This achievement may, in turn, enhance the researcher's prospects in the job market and open doors for future professional advancement.

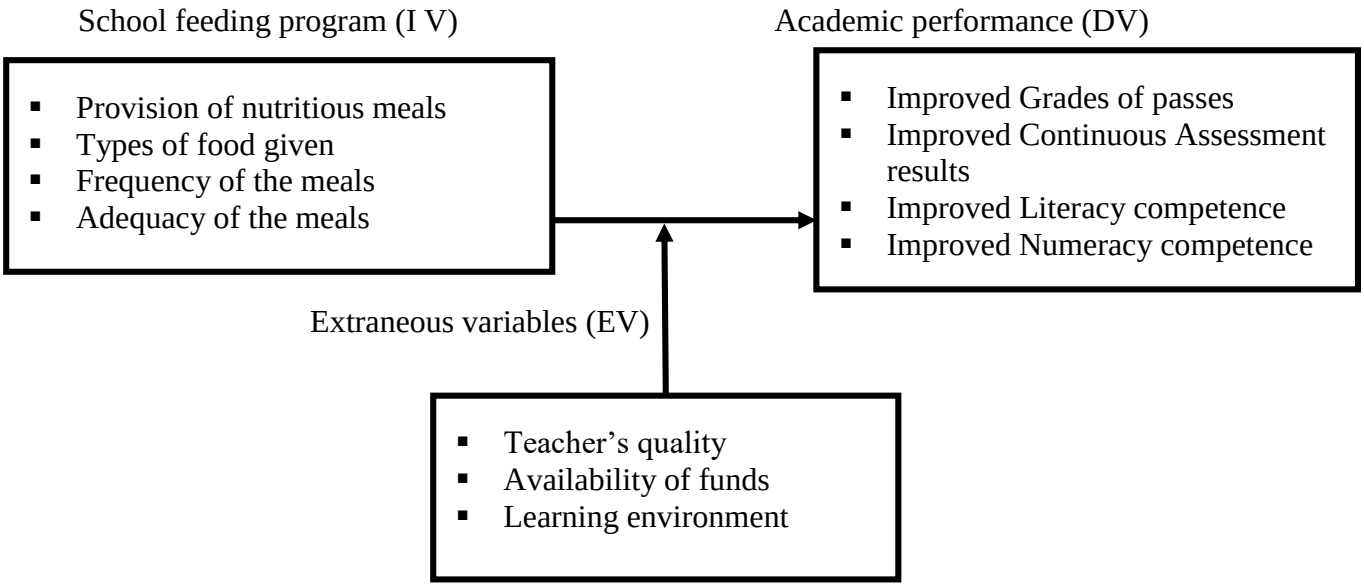


Figure 1.2: The conceptual frame work

The conceptual frame work above shows an assumed relationship between school feeding program (provision of nutritious meals, types of food given, quality of food give and the frequency of food given) influenced academic performance of learners in primary schools in terms (grades of passes, results scored by the learner, record of continuous assessment, literacy and numeracy competences supported by extraneous variable of teacher's quality and availability of funds moderate the relationship between school feeding program and academic performance of learners in Government primary schools. For instance when pupils are provided with lunch and breakfast, cases of late coming, sleeping in class is reduced as well they pay attention to details while you are teaching.

Academic performance of learneris not only determined by school feeding programs but also the teacher's quality, availability of funds, and sometimes learning environment. For instance the qualification and competency of teachers, mod of assessment and methods of teaching encourages learners to understand and perform well compared to learners with good infrastructures at school without above qualities.

Chapter Two

Literature Review

2.0. Introduction

Literature in this chapter will be analyzed chronologically according to the study objectives. Namely; Status of school feeding program in primary school, Levels of academic performance in government primary schools and the relationship between school feeding program and academic performance of learners in government primary schools.

2.1. Theoretical Review

The theory of Maslow's Hierarchy of Needs. According to Abraham Maslow, in his seminal work in 1943, introduced the hierarchy of needs, which posits that human needs areg hierarchical and arranged in a pyramid structure (Maslow, 1943). These needs range from basic physiological needs to higher-order needs such as self-actualization. Maslow argued that lower-order needs, such as food and safety, must be fulfilled before individuals can progress to higher-level needs like cognitive and self-fulfillment goals. If basic needs remain unmet, individuals are unlikely to concentrate on growth and development in other areas (Maslow, 1943).

In the context of education, Maslow's theory has been widely applied to explain the role of school feeding programs. For examples in his study of ““A Theory of Human Motivation” (1943). This is Maslow’s most famous study where he first introduced the Hierarchy of Needs, he explained that human beings are motivated by five levels of needs arranged from lower to higher levels. These are; Physiological needs, Safety needs, Love and belongingness, Esteem needs and Self-actualization needs being the higher order level needs.

These theory addressed physiological needs by ensuring learners have access to regular meals, thereby enhancing their ability to focus, engage, and perform academically (Mbiti, 2021).

Research demonstrated that learners who receive nutritious meals regularly are more attentive, motivated, and capable of engaging in academic activities, resulting in improved academic performance (Adelman et al., 2018). This aligns with Maslow's argument that satisfying basic needs fosters higher-order development.

Hunger and malnutrition presented significant barriers to learning, particularly in resource-limited settings like Dokolo District, where food insecurity is prevalent. Learners often attend school hungry, making it difficult to concentrate or stay throughout the day (World Food Programme [WFP], 2019). As a result, some students miss school entirely or leave early.

The school feeding program alleviated these challenges by providing meals that address hunger, enabling learners to concentrate on classroom activities. This approach also promoted equity in learning opportunities, especially for children from impoverished households (Gelli et al., 2019).

How relevant is Maslow’s Theory to this study

Maslow's Hierarchy of Needs is highly relevant when conducting a study on the school feeding program and academic performance of learners in government primary schools, as it provides a theoretical framework for understanding how basic needs influence learning outcomes. However, it relevancy was looked into various ways as seen below.

In Linking Basic Needs to Learning Readiness, Maslow’s theory posits that physiological needs, such as food, must be met before individuals can focus on higher-order needs like learning. In the context of School feeding programs, it shows that physiological needs (first level of the hierarchy), such as hunger and malnutrition must be fulfilled first. That is when learners are hungry or undernourished, their ability to concentrate, stay alert, and retain information is compromised. By ensuring that learners receive meals at school, their cognitive functions and classroom participation improve, leading to better academic performance.

In an application this imply that, fulfilling learners' basic needs (through feeding programs) lays the foundation for academic success (Gelli et al. 2020).

In enhancing a Sense of Safety and Belonging, Maslow identifies safety and belongingness as the next essential needs. A regular school feeding program contributes to a stable and predictable environment, making learners feel secured and cared for. Sharing meals also promoted a sense of community and social inclusion, especially for vulnerable or marginalized learners.

Applying this theory to this study, it promotes a positive school climate that supports emotional well-being, motivation, and attendance, all of which are linked to academic achievement (Alemu, 2021).

Reflecting to Motivation and Self-Esteem when learners' basic needs are met, they can progress to higher levels such as self-esteem and self-actualization. A well-fed learner is likely to feel more confident, capable, and motivated to engage in learning activities. Positive academic results, in turn, reinforce self-worth and drive learners to aspire to reach their full potential.

However, Maslow's theory helped explaining how school feeding programs not only address hunger but also enhanced learners' self-esteem and intrinsic motivation (WFP 2022).

Building Theoretical Foundation for the Study using Maslow's theory allows teachers and different stakeholders to justify the importance of addressing basic needs in educational policy and programming. It also develop interventions and hypotheses that link school feeding to various levels of learners' development.

This therefore provide support to conceptual framework, showing how school feeding programs can directly or indirectly influence academic performance (Gelli et al. 2020)..

Alli n all, Maslow's Theory of Needs provides a psychological rationale for the school feeding program by explaining how fulfilling learners' basic physiological and emotional needs is essential for learning. In this study, this theory strengthens the argument that feeding programs are not just welfare efforts but crucial educational strategies that directly impact academic performance in government primary schools (Maslow, 1943).

In this study, Maslow's Theory of Needs was highly supported by Self-Determination Theory (SDT) (1985). Self-Determination Theory (SDT) developed by Edward Deci & Richard Ryan (1985) focuses on intrinsic growth and psychological needs. However, the theory identifies three basic psychological needs of autonomy, competence, elatedness which aligns with Maslow's higher-order needs like self-esteem and self-actualization and emphasizes growth, fulfillment, and internal motivation.

2.2. The status of school feeding program in Government primary schools.

In Kenya, the status of SFP showed that Kenya has transitioned from WFP to a Home-Grown School Feeding Program (HGSFP) since 2009. The program is funded and managed by the government, with counties playing a key role. Focus is on sourcing food locally to benefit both schools and local farmers. Meals are prepared in schools by trained cooks and served during school days. However, the study revealed irregular food supply caused by weak procurement systems and delayed disbursements. Suggestions has been made to establish decentralized procurement systems at county levels to improve timely food delivery and cost-efficiency

Niyonzima & Uwizeyimana, (2022) conducted a study by the tittle "School Feeding Programs and Student Health Outcomes in Rwanda". The status of SFP in Rwanda shows that, Rwanda has a national school feeding policy (adopted in 2021). It supports universal feeding in public primary and secondary schools. The model integrates HGSFP principles, sourcing food from local farmers and cooperatives. The central government provides funds, with additional support

from development partners and communities. (Niyonzima & Uwizeyimana, 2022). However,the study reveal that School staff and parents are not adequately involved in decision-making processes related to the feeding program and suggestions have been made to train and involve teachers and parents in menu planning, procurement, and monitoring to strengthen local ownership.

Okeke & Adebayo (2022) conducted a study on "Assessment of the National Home-Grown School Feeding Programme in Nigeria". The status of SFP in Nageria shows that, Nigeria's National Home-Grown School Feeding Programme (NHGSFP) is a large-scale initiative targeting public primary schools, primarily in low-income and rural areas. The program is managed federally, with local implementation by state governments. The study reveal that, the NHGSFP has led to significant improvement in school enrollment and attendance, especially in the northern states where food insecurity is high. It also supports local economies by purchasing food from smallholder farmers. However, there are delays in fund disbursement, leading to irregular meal provision in some states. Also Corruption and poor record-keeping have affected the program's efficiency and transparency. Suggestions have been made to introduce a digital payment system for cooks and suppliers to reduce corruption also strengthen the capacity of state-level monitoring units for better oversight. (Okeke & Adebayo, 2022).

Lado & Nyibol (2023) conducted a study on "School Feeding in Emergency Settings: A Case Study of South Sudan". The status of SFP in South Sudan shows thatSo, uth Sudan implements school feeding through humanitarian agencies like the World Food Programme (WFP) due to ongoing conflict and displacement. The program is often emergency-based. Findings reveals that, SFPs are crucial in refugee and IDP (Internally Displaced Persons) camps, serving as a lifeline for food-insecure children. Also, Food incentives have increased girls' attendance in conflict-affected zones. However, Programs are highly dependent on international donor funding with minimal local ownership. And also Insecurity and poor road infrastructure disrupt

food delivery. The study suggested that the Government should build community kitchens and train local volunteers to improve program sustainability and Government should gradually take over ownership through budget allocation and staff training.

Dube & Moyo (2021) conducted a study on “Evaluating the Effectiveness of the School Feeding Scheme in Zimbabwe”. The status of SFP in Zimbabwe shows that, Zimbabwe operates a School Supplementary Feeding Programme (SSFP) mainly supported by the Ministry of Primary and Secondary Education, with help from NGOs. Dube & Moyo revealed that the provision of porridge helped curb hunger and improved student attendance in drought-prone areas and Community participation in meal preparation created local job opportunities in the community. Poor water supply and sanitation facilities limited the efficiency and safety of food preparation and Limited diversity in food offerings led to monotony and poor nutritional outcomes. Suggestions was made to invest in WASH (Water, Sanitation, and Hygiene) infrastructure in schools and also collaborate with agricultural extension services to introduce diversified school gardens. (Dube & Moyo 2021).

A study conducted by Amponsah & Boateng (2022) on “Impact Assessment of the Ghana School Feeding Programme (GSFP) showed that Ghana's GSFP is a decentralized government-run initiative focused on poverty alleviation and improving basic education. It emphasized locally sourced food. The study revealed that Children in GSFP schools demonstrated higher attendance, lower dropout rates, and improved class engagement and Local women were employed as caterers, supporting gender empowerment. However, Lack of standardization in portion sizes and nutritional content across districts and Poor contract management led to delays in caterer payments. Suggestions was made to standardize meal portions and nutritional requirements nationwide and also streamline payment systems and contracts to avoid delays and ensure quality service delivery.

Zongo & Traoré (2023) conducted a study on "School Feeding and Resilience in Sahelian Countries: Burkina Faso Case". The status of SFP in Burkina Faso showed that Burkina Faso integrates school feeding into its national development strategies, especially in drought-prone areas. The program is co-managed by the government and WFP. Findings reveals that, SFPs serve as a social safety net during the lean season, preventing dropouts and also Community-based school gardens supplement meals, reducing program costs. However, School gardens are underdeveloped in many regions due to poor irrigation and Food storage facilities which are inadequate, leading to spoilage. Suggestions have been mad to introduce solar-powered irrigation systems for school gardens and also Construct improved grain silos and kitchens in rural schools.

Singh & Banerjee (2021) conducted a study on 'The Mid-Day Meal Scheme and Academic Outcomes in India". The status of SFP in India showed that, India operates the Mid-Day Meal Scheme (MDMS), the world's largest school feeding program, serving over 120 million children. It is centrally funded but implemented by state governments. Findings revealed that the program led to better classroom performance and higher female enrollment, especially in rural and marginalized communities. However, Cases of food contamination and unhygienic conditions in kitchens were reported and Bureaucratic inefficiencies delayed meal preparation in some schools. Suggestions have been made to install automated food tracking systems and deploy regular food safety inspections and also decentralize supply chains to allow flexibility and faster response at the district level.

A study conducted by Silva & de Souza in Brazil (2022) on "The Brazilian National School Feeding Program: A Model for the Global South". Brazil's Programa Nacional de Alimentação Escolar (PNAE) is renowned globally for integrating nutrition, education, and agricultural development. Findings reveals that the program ensures every student receives a nutritious meal sourced from local farmers and Nutritionists oversee meal planning, ensuring dietary

diversity. The study was limited to the rising inflation which has put pressure on food procurement budgets and some rural schools faced logistical delays in food delivery. However, suggestions have been made to increase federal funding to match food price inflation and develop regional food distribution centers to speed up delivery to remote areas.

2.3. The levels of academic performance among learners in Government primary schools.

A study conducted by Nabukeera & Mugisha (2022) on "Academic Achievement in Universal Primary Education Schools" showed that the academic performance level in Uganda was below the national average, especially in rural schools. According to the study findings, Learners in rural schools scored significantly lower in PLE exams due to inadequate learning materials and Schools with feeding programs tend to have better attendance and performance. However, the study relied solely on quantitative data, excluding teacher perspectives and limited to Central Uganda. Suggestions made was to adopt mixed-methods to understand underlying issues and expand research to include Northern and Western regions.

In Kenya, the level of Academic Performance is moderate, with higher performance in urban areas as compared to rural areas. In a study conducted by Wanjiru & Muriithi (2023) in Nairobi county on "Determinants of KCPE Performance in Public Primary Schools". The findings revealed that High pupil-teacher ratios negatively impact KCPE scores and schools with parental involvement tend to perform much better. However, the study present content gap of little discussion and consideration on special needs learners. The study suggested for the inclusion of marginalized group of learners in future studies and curriculum should be designed in such a way that all categories of learners are included in the system.

A study conducted by Eze & Okafor (2022) in Enagu State, Nazeria on "Academic Performance in Basic Education Schools" found out that academic performance level in Nageria was low, with disparities between North and South. The study findings revealed that

Security challenges in the North disrupt learning, reducing exams pass rates and urban schools performed better due to infrastructure and teacher quality with stable security. However, the study presented a geographical gap of not representing the northern rural communities and suggestion was made to target research in security-prone regions for the benefit of all community in the country.

Mwakapugi & Josephat (2023) conducted a study in Dodoma Region, Tanzania titled "Challenges Influencing Performance in Government Primary Schools". In this study, academic performance level in Tanzania was found to be below the national expectations. Findings revealed that, lack of qualified teachers and overcrowded classrooms hinder learning and also Female learners have lower performance due to domestic responsibilities. The study presented a gap in time because the study only captured one academic year performance thus multiple academic years for broader understanding should be included for the study program.

The level of academic performance in Rwanda is improving but urban-rural disparities persist. In a study conducted by Uwineza & Ndayambaje (2022) in Gasabo District Kigali Rwanda on "Performance in National Primary Examinations". Findings revealed that Students in schools with e-learning tools showed higher exam scores and regular assessments which enhanced learning outcomes. However, the study only used exam results with no classroom observations and it was only limited to Kigali and Eastern Province. Suggestions was made for the use of classroom observations to complement exam analysis and expand research to Western and Northern Provinces.

In Malawi, the level of academic performance was low, especially in public schools without feeding programs. In a study conducted by Phiri & Banda (2023) in Lilongwe District on "Academic Performance and School Conditions in Malawi". Findings outlined that School feeding boosts attendance and performance and Textbook shortages directly correlate with poor

literacy levels. The study was limited to geographical scope where only two Districts were sampled but suggestion was made to expand the scope to include more districts.

A study conducted by Boateng & Kwame (2022) in Ashanti Region (Kumasi) on "Regional Differences in Basic Education Performance" showed that academic performance level in Ghana was average, with variation between regions. The study findings revealed that teacher absenteeism was higher in Northern Ghana, affecting results and urban schools have better access to educational materials. However, the study was limited to Geographical location where it was limited to Greater Accra and Northern Region only but suggestion was made to cover all 16 regions in future research.

The academic performance level in South Africa have high disparities; underperformance in low-income areas. With the study conducted on "Inequality and Learning Outcomes in Primary Schools" by Spaull & Daniels (2023) in Eastern Cape Province, Findings revealed that Socioeconomic background was the strongest predictor of performance and Learners in fee-paying schools outperform those in free public schools. The study was limited to content gap where it did not analyze emotional or mental health of learners but suggestion was made to assess student well-being as part of performance studies.

Lungu & Mwansa (2022) conducted a study on "Evaluation of Early Grade Learning Outcomes" in Lusaka District, Zambia where it was found out that academic performance level of learners was below average in literacy and numeracy. Study findings revealed that teacher training quality correlates with student success and Instructional language mismatch lowers performance. The study was limited to geographical scope and content scope where focus was on urban Lusaka region only no analysis of girl-child education was done. However, suggestions was made to expand to rural and peri-urban areas and include gender-focused analysis in the future studies.

Tadesse & Bekele (2022) conducted a study in Oromia Region on “Impact of Instructional Quality on Performance” and discovered that academic performance level in Ethiopia was consistently below targets in rural schools and their findings revealed that teacher subject knowledge boosts learner achievement and performance suffers in multilingual classrooms without proper support. However, the study was limited to content gap where no attention was given to technology use and no learner voice included in the study methodology. Up on that, suggestions was made to investigate role of digital tools in learning and also to include student feedback in future research.

Academic performance level in Burundi was generally low, especially in conflict-affected areas. A study conducted by Ndayizeye & Hakizimana (2023) in Bujumbara Mairie on “Conflict and Learning Outcomes in Burundi’s Primary Schools” revealed that conflict zones have higher school dropout rates and lower test scores and girls’ performance lags due to early responsibilities and insecurity. The study was limited to methodological gap where it did not use longitudinal analysis but suggestion was made to conduct long-term studies to understand recovery in post-conflict schools.

The level of academic performance in Zimbabwe was declining due to economic instability. In a study conducted by Moyo & Chikodzi (2023) in Harare Province on “Primary School Learning Crisis in Zimbabwe”. The study finding revealed that shortages of learning materials and teachers strikes contributed to poor performance and Grade 6 learners’ average below 40% in Maths and English assessment. However, the study was limited to methodological gap where focus was on quantitative results only but later suggestion was made for the use of mixed methods to understand psychosocial factors.

Johnson & Kromah (2022) conducted a study in Montserrado County, Liberia on “Learning Outcomes in Liberian Public Schools” where it was found out that academic performance level in Liberia was very low; national learning crisis declared. The study findings revealed that over

60% of Grade 4 pupils are unable to read at grade level and Government-led school reform pilot programs showed marginal improvement in performance. However, the study was limited to Monrovia and did not investigate language of instruction but suggestions were made to expand research to include rural and riverine schools and evaluate language policy in teaching and learning.

A study conducted by Almeida & Mucavele (2023) in Maputo Province, Mozambique found out that the level of Academic Performance was below SADC region was averages and reading fluency and numeracy remain weak in Grades 3–5, furthermore, Female students drop out earlier, affecting overall performance. The study was limited on school-reported data with no verification and no data on teacher training or supervision which present the content gap in the study. However, suggestion was made to implement third-party verification for assessment accuracy and introduce teacher training metrics into performance studies

Nkemnji & Fon (2022) in their work on "Educational Disparities in Conflict-Affected Regions" in Northwest Region (Bamenda), Cameron found out that the level of academic performance was mixed; Anglophone regions perform worse due to crisis. Findings revealed that Anglophone regions reported lower exam pass rates due to school closures and in stable areas, performance was linked to parental support. However, the study did not cover francophone regions and no triangulation of data sources which presents Geographical and Methodological gaps respectively. Suggestions was made to conduct comparative studies across Anglophone and Francophone areas and use multiple data collection tools (surveys, interviews, observations).

Pakistan have low level of academic performance in public schools. According to Shah & Ahmad (2023) in their work of "Learning Crisis in Government Primary Schools of Punjab", the study reveals that 70% of fifth graders could not read a paragraph in Urdu or English and Poor infrastructure and teacher absenteeism are major issues for low academic performance of

learners. The study presents a content gap of not assessing the community or parental engagement but rather suggestions was made to involve community stakeholders in academic support programs.

A study conducted by ASER Centre (2022) revealed that there are varied; underperformance in rural government schools. In the study of "Annual Status of Education Report (ASER) 2022", Findings pointed out that reading and Math proficiency dropped compared to pre-pandemic levels and schools with midday meals and parental involvement showed better results. However, the study lacked historical trends beyond the pandemic which presented the gap in time for the study but suggestion was made to track performance recovery post-COVID over multiple years.

A study conducted by Hossain & Sultana (2023) on "Learning Losses Post-COVID in Primary Schools" showed that Bangladesh has below level of expectation of academic performance. The study findings revealed that COVID-19 caused a drop in academic performance level up to 40% in expected grade-level proficiency and students in government schools lag behind those in NGO-run schools. The study presented a Geographical gap where Urban focus; excluded hard-to-reach areas but suggestion was made to expand study to remote coastal and riverine districts in order to benefit all categories of learners.

Bhandari & Thapa (2022) conducted a study on "Equity in Learning Achievement among Government Primary Schools" and found out that academic performance was gradually improving in urban areas. The study notably realized that gender gap narrowing, but caste-based disparities persist and learners from marginalized communities perform worse in STEM subjects. However, the geographical gap was that the study did not include mountainous or border regions and also no intervention analysis for marginalized learners but later suggestions was made to expand sample to include geographically isolated schools develop targeted STEM programs for marginalized groups.

Putri & Santoso (2023) conducted a study in Indonesia on “Academic Performance and Regional Inequality in Indonesia’s Public Schools” where academic performance level was average, with better outcomes in Java compared to outer islands. Study findings revealed that resource allocation favors central provinces, affecting learning equality and learning loss due to school closures persists in remote areas. However, the study presented methodological gap where use of ICT impact data was not captured and also it focuses on 2022 without a comparison baseline. Suggestions was made to conduct national ICT access audit in schools and use pre- and post-pandemic comparisons.

2.4. The relationship between school feeding program and the level of academic performance of learners in government primary schools in Uganda.

School feeding programs (SFPs) have been implemented globally to address issues of malnutrition, improve health, and enhance educational outcomes among school-aged children (WFP, 2019). In Uganda, these programs have been a focal point in efforts to boost academic performance in government primary schools. This literature review examined the relationship between SFPs and the academic performance of learners in Ugandan government primary schools, drawing on various scholarly studies. Several studies have explored the direct correlation between SFPs and students' academic achievements:

Isiko Mohammed from Kenya (2022), in a study conducted in Namutumba District, Uganda, Mohammed assessed the impact of school feeding on pupils' academic performance. The research involved 606 participants, including 569 students, using interviews, questionnaires, and focus group discussions. Findings indicated that while many pupils struggled with literacy and numeracy, teachers observed improvements in these skills among students participating in SFPs. The study concluded that school feeding was intended to keep pupils in school and enhance their learning outcomes hence, there was a strong relationship between SFP and

Academic performance of learners in primary schools. The study presented a Geographical gap by focusing on only one sub-county, limiting generalizability to other districts. Suggestion was made to conduct similar studies in multiple districts to enhance external validity

Bekele & Tadesse, (2023) conducted a study on “Impact of School Feeding on Educational Attainment in Ethiopia” the study found that Schools with feeding programs showed reduced absenteeism and dropout rates, especially in drought-prone areas and also Teachers observed improved student attention spans and test scores in subjects like mathematics and language. However, only a fraction of the schools were covered under the feeding program, leaving many children excluded. There was need to expand program coverage, particularly in food-insecure regions, to ensure no child is left behind.

The status of SFP in Ethiopia has expanded its Urban School Feeding Program, especially in Addis Ababa and other major cities. Meals are prepared and provided daily (breakfast and lunch) in many public schools. The government funds the urban SFP, while rural programs still rely on WFP and NGO support. Programs focus on nutritional quality, and involve school gardens and food cooperatives (Bekele & Tadesse, 2023). The study presented a content gap by itself noting that improvements in academic scores were not sufficient for firm conclusions. Therefore, use of longer longitudinal designs to establish stronger causal relationships between feeding and academic achievement was suggested.

Ssenyonga Wilson (2019) from Uganda, Wilson's research at Nkumba University investigated the implementation of feeding programs and their effect on learners' academic performance. The study found a close relationship between the nature of SFP implementation and academic outcomes. Schools with effective feeding programs reported better performance in Primary Leaving Examinations (PLE) as compared to those that are not implementing the program of SFP. However, there was limited intervention by the Government in the implementing processes. The study therefore, recommended regular reviews and sensitization on SFPs,

establishment of functional School Feeding Committees, and utilization of school resources to improve program effectiveness.

Dongqing Wang & Wafaie W. Fawzi (2020), Global. A systematic review and meta-analysis evaluated the impacts of SFPs on educational and health outcomes of school-age children and adolescents in low- and middle-income countries, including Uganda. The review aimed to provide a crucial evidence base for the educational and health benefits of school feeding on children and adolescents in these regions. The gap in the study was that, it focused largely on nutritional and health outcomes rather than educational achievement therefore, suggestion was made examine direct links between nutrition gains and academic achievement.

According to Edgar Twinomujuni (2024, Uganda), the program officer for School Feeding at the World Food Programme, advocated for proper school feeding policies in Uganda. He emphasized the need for government prioritization of SFPs in the National Development Plan IV and allocation of specific budgets for school garden initiatives. These measures aim to enhance food security and academic performance among students. The study presented a content gap by concentrating more on implementation aspects than learner academic outcomes. Suggestion was made to investigate the direct effect of feeding programmes on examination performance and literacy outcomes.

Ahmed, A. U. (2024), Bangladesh. Ahmed's study evaluated the impact of feeding children in school on enrollment, attendance, and academic performance in Bangladesh. The findings indicated that SFPs led to a significant increase in school enrollment and attendance rates. Additionally, there was a notable improvement in academic performance among students who participated in the feeding programs. The study suggested that SFPs can serve as effective tools for enhancing educational outcomes in developing countries. Hpwever, the study did not

sufficiently addressed gender differences in programme benefits but suggestion was made to examine gender-specific effects of school feeding on academic performance of learners.

The authors conducted a Cochrane review to assess the effects of SFPs on the physical and psychosocial health of disadvantaged students. The review concluded that SFPs have a positive impact on attendance rates and academic performance. (Kristjansson, et a, 2017). However, the study also emphasized the need for high-quality research to better understand the long-term effects of these programs. This study investigated how effective food for education programs are at improving educational outcomes in Uganda. The research found that SFPs led to increased school participation and improved academic performance. Adelman, S., Gilligan, D. O., & Lehrer, K. (2018, Uganda). The authors suggest that combining SFPs with other interventions, such as deworming and micronutrient supplementation, could further enhance their effectiveness. However, thestudy did not adequately explore implementation challenges at school level but suggestion was made to investigate school-level implementation factors influencing programme success.

UNICEF Uganda (2024), reported on the positive effects of providing meals in schools within the Karamoja sub-region. The initiative led to increased school retention rates and improved the general health and well-being of students. Teachers observed that students became more eager to attend school, with some even arriving earlier than usual. However, much as the enrollment and attendance were improved, the study revealed that most learners were still not in position to display their academic capabilities in solving daily life problem related to academic challenges. Primarily descriptive and policy-oriented, with limited empirical analysis of academic outcomes was the gap presented by the study but suggestion was made to conduct empirical studies linking SFP participation to examination performance of the learners.

World Food Programme (2025), Acknowledged a contribution from the Government of Uganda to support Home-Grown School Feeding programs in the Karamoja region. This

initiative aims to provide daily nutritious meals to approximately 250,000 children in 320 schools, sourced locally from smallholder farmers and school gardens. Such programs have been linked to increased school attendance, enrollment, and reduced dropout rates. The sourcing of food staff locally by the WFP were greatly affected by bad weather and reluctant of some community who had much of their demands on the world donors. The study presented a content gap of limited evidence on classroom learning processes such as concentration and participation but suggestion wa made to assess long-term academic outcomes of beneficiaries.

National Planning Authority Report (2024), Projected that introducing a compulsory government-funded school feeding program at pre-primary and primary levels could increase enrollment rates by 10%. The report also highlighted potential reductions in malnutrition and enhancements in educational attainment. However, there was limited evidence on regional disparities in implementation and effectiveness and suggestion was made to compare outcomes across regions and socio-economic contexts in Uganda

School Feeding and Anemia Reduction (202 3). A 2023 study published in the Journal of Nutrition investigated the impact of school feeding programs on anemia prevalence among adolescent girls in Uganda. The findings indicated that SFPs significantly reduced anemia rates, which is associated with improved cognitive function and academic performance.

According to the Ministry of Education and Sports, Uganda (2024). The Ugandan Ministry of Education and Sports announced the rollout of a national school feeding program aimed at addressing hunger among students and teachers. This initiative seeks to mitigate the issue of learners attending school on empty stomachs, which has adversely affected concentration and academic performance (MoES, 2024). The study presented a gap of limited evidence of information from rural and hard-to-reach primary schools. Suggestion was made to conduct

longitudinal studies linking feeding program to academic outcomes and compare urban schools to rural schools when carrying out implementation.

The study conducted by Ashinaga Uganda (2022), Highlights the crucial role of SFPs, this report emphasizes how programs like the one offered at Ashinaga Rainbow House ensure adequate education and nutrition for children. The initiative addresses challenges exacerbated by the COVID-19 pandemic, which has impacted children's ability to access proper nutrition and education. The study presented a content gap of concentrating on attendance and enrolment more than academic performance small geographical coverage was recorded where suggestion was made to expand to multiple districts and examine examination performance indicators across all learners.

Munyantore Jean Claude, Mukamazimpaka Mari Claire, & Mugiraneza Faustin (2024, Rwanda). This study assessed the contribution of SFPs on students' academic performance in public secondary schools in Kicukiro District, Rwanda. The research found a high positive impact of school feeding on students' academic performance, indicating that well-implemented SFPs can significantly enhance educational outcomes despite the fact that the study found a gap in constant supply of food staff to the various school in order to enhance better feeding mechanisms of children at schools. The gap in the study was that, it was conducted in secondary schools rather than primary schools and did not examine other factors affecting performance such as parental support and teacher quality. However, suggestion was made to replicate the study in primary schools and control for home and school factors.

A study conducted by Khamati & Nyongesa (2022), Kenya, Investigating the impact of SFPs on academic performance in primary schools in Kenya, this study found that SFPs led to

improved student attendance and concentration, which in turn enhanced academic performance. The research underscores the importance of proper implementation and monitoring of these programs to achieve desired educational outcomes. The study presented a gap of limited focus on nutritional quality of meals and relied heavily on self-reported responses. Suggestion was made to investigate nutritional adequacy and use objective academic records.

Gelli et al. (2021)). This research explored the cost-effectiveness of SFPs in low-income countries. The findings suggest that SFPs not only improve educational outcomes but also offer economic benefits by enhancing human capital. The study advocates for the integration of SFPs with other health and educational interventions to maximize their impact. The study presented content gap of limited evidence on long-term academic effects and suggestion was made to assess long-term academic gains and learning outcomes.

Adelman, Gilligan, & Lehrer (2021), Uganda. This study evaluated the effectiveness of food for education programs in Uganda. The research demonstrated that SFPs led to increased school participation and improved academic performance. The authors recommend combining SFPs with complementary interventions, such as deworming and micronutrient supplementation, to further enhance their effectiveness. The study was limited to context-specific findings which was not general to Uganda. However, suggestion was made to conduct country-specific studies and examine learning achievement directly

A study conducted by Kasozi et al. (2021) in Uganda examined the impact of school feeding programs (SFPs) in rural Uganda and found a positive correlation between feeding and pupil concentration and retention. In his findings, enrolled schools showed improved attendance and

marginal improvement in test scores. However, the study did not consider long-term academic performance across education cycles.

Wanjohi & Mwangi (2020) conducted a study and assessed school feeding in arid regions of Kenya and found improved attendance and academic scores. Learners who are in schools where school feeding program (SFP) are implemented score 15% higher on standardized tests when compared to other learners. In the study, Socioeconomic factors were not controlled which presented a gap in the findings.

Mensah et al. (2022) analyzed Ghana's National School Feeding Programme (NSFP) and its effects on basic education outcomes. The study found out that NSFP enhanced school enrolment and literacy skills but lack of gender-disaggregated data analysis presented a gap in the study.

Feeding Programs and Learning Outcomes in Addis Ababa. International Journal of Educational Research. A study conducted by Tafere & Wondimu (2021) in urban public schools reported significant improvements in math and reading performance due to SFPs. However, the study was limited to urban settings only ignoring rural settings which does not bring a comprehensive understanding between urban schools and rural schools. Suggestion was made

In a related development, a study conducted by Adeleke & Osagie (2020) in Nigeria found that learners in public schools with feeding programs performed better academically, especially in science subjects when compared to those in schools where school feeding program is not implemented. The study conducted present a gap relying on self- reported academic performance.

A study conducted by Ravi & Kaur (2021) in India examined the Midday Meal Scheme and reported improved cognition and classroom participation among learners involved in schools

conducting school feeding program. When the child is able to interpret and get the meaning of new words in a given context, then it's a clear sign that he or she has got better cognitive understanding. The study also found out that school feeding program bridged the nutritional gaps among learners in schools. Besides bridging the nutritional gaps among learners, the study also reveal that cognitive outcomes were not measured using standardized tools.

Haque et al. (2022) in a study conducted on School Meals and Academic Results in Bangladesh. Food and Nutrition Bulletin, he observed improvements in school enrolment and test scores in food-insecure communities with school feeding program (SFPs). The study conducted in Bangladesh lacks longitudinal data to assess sustained effects.

Chikafa & Banda (2020) in their work of "The Influence of School Meals in Malawi. African Educational Research Journal". The study found that school feeding led to increased pupil punctuality and improved literacy scores among learners. The study was majorly conducted with primary learners of grade 3 and grade 4 only. Focusing only on primary grade 3 and grade 4 learners tend to ignore other groups of learners in a primary setting.

Niyonzima et al. (2021) in a study conducted on Rwanda's School Meals and Learning Performance. East African Journal of Education, the study linked SFPs with improved class participation and exam performance among rural students. The study was also found to be presenting a gap on Inconsistent meal provision which affects reliability of outcomes.

Mokoena & Ngwenya (2020) in their work of School Feeding and Learning in South African Public Schools. Journal of Education Policy, found that SFPs enhanced learner attendance and energy levels, leading to better academic results. However, the study did not factor in psychosocial variables affecting learning of children in the study area.

In a study conducted by Adelman et al. (2020) in USA on "How effective are food for education programs? World Bank Research Observer". The study emphasized the role of nutrition in

cognitive development, indicating that well-nourished children are more attentive and engaged in classroom activities. The study also found out that, a comprehensive analysis revealed that consistent school feeding programs enhance learners' attention spans and class participation. However, the research did not assess long-term academic performance across different grade levels.

Bundy et al. (2020) in a study conducted globally on "Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector". The study highlighted that providing meals at school addresses short-term hunger, allowing students to focus better and perform academically. It also found out that a comprehensive school feeding programs were found to improve test scores in low-income countries. Besides these, the research lacked disaggregated data on gender-based outcomes, limiting insights into how different groups can benefit.

According to the study conducted by Gelli et al. (2021) in Ghana on School meals and academic performance in Ghana: A randomized trial. Food Policy. The provision of nutritious meals was linked to improved concentration and cognitive functions, leading to better performance in mathematics. It was also found out that a randomized controlled trial showed increased mathematics scores in intervention schools. However, the study did not examine the effect on other subjects like literacy, leaving a gap in understanding the comprehensive academic impact.

Ahmed et al. (2021) in the work of "Education and nutrition linkages: Evidence from Bangladesh". It was found out that by alleviating hunger, students were more likely to attend school regularly and continue their education. The study also reveal that School feeding programs reduced dropout rates and increased grade retention. The study was limited to specific region limiting the generalizability of the findings to other contexts.

In a study conducted by World Food Programme (2020) globally, the report indicated that school meals contribute to better educational outcomes by improving attendance and reducing dropout rates The Countries with active school feeding programs experienced improved literacy rates which promote academic Excellency among learners in government primary schools. The report presented by (WFP) did not provide specific academic performance data, making it challenging to quantify the impact.

Osei-Fosu (2020) in his work of "The impact of school feeding on educational outcomes in Ghana"The study revealed that availability of meals at school incentivized attendance and enhanced students' ability to concentrate, leading to improved academic performance. The findings also shows that children in schools with feeding programs had significantly higher attendance and better test results that indicate a co relation between school feeding program and academic performance among learners in primary schools. However, the study did not measure cognitive skills beyond academic grades, such as problem-solving or critical thinking abilities.

Mwangi & Khamati (2021) in their work of "School feeding and education outcomes in rural Kenya" Revealed that the provision of meals addressed food insecurity, encouraging regular school attendance and timely arrival. It was also found out that school feeding enhanced learners' punctuality and reduced absenteeism among learners in government primary schools. The study did not directly correlate these improvements with exam performance, leaving the academic impact uncertain.

Buhl (2020) in Ethiopia on his work of "Feeding minds: Nutrition and education in Ethiopia" ascertain that by providing consistent nutrition, students were better able to concentrate during lessons, enhancing learning experiences. It also found out that school meals increased student focus and reduced short-term hunger among learners while at school. The study however lacked longitudinal academic data to assess long-term educational outcomes.

In a study conducted by Jomaa et al. (2021) on school feeding program globally, the review consolidated evidence that adequate nutrition is fundamental to cognitive development and academic achievement. In their findings, a systematic review found strong links between nutrition and academic success globally. The fact that there was lack of data on program implementation of quality, which can influence outcomes presented a study gap in findings.

Focusing on the study conducted by Namukwaya et al. (2022) in Uganda, the study indicated that consistent meals at school contribute to better focus and academic performance among students. It was also found out that Uganda's school feeding program improved learners' concentration and exam scores which contribute to better academic performance of learners in primary schools. The study lacks empirical data score to ascertain the level of academic performance of learners in primary schools.

Conclusion

The literatures reinforces the positive relationship between school feeding programs and the level of academic performance of learners in Uganda and other regions. Effective implementation of SFPs leads to improved attendance, concentration, and overall academic outcomes. However, challenges such as logistical constraints, inadequate food supply, and infrastructure limitations need to be addressed to maximize the benefits of these programs. However, the literature presented gaps that were found in the different studies conducted based on the following areas. There was geographical gaps, methodological gaps, content gaps, population gaps, policy gaps, communication gaps, resources gaps, and many others that were discussed under specific objectives and recommendations such as regular policy reviews, establishment of functional committees, and community involvement to ensure the sustainability and effectiveness of school feeding program and academic performance has been put forward for consideration.

Chapter Three.

Research Methodology.

3.0 Introduction.

This chapter presented the planned approaches and methods of data collection. It looked at research design, area of study, population of study, sample size selection, data collection methods, data collection tool, data quality control, limitations and delimitations of the study, and ethical consideration.

3.1 Research Approach.

This study adopted the mixed method approach of qualitative and quantitative data collection, presentation, analysis of data and discussion (Creswell, 2014). Mixed methods is the research approach that combines both numerical data and descriptive data methods within a single study (Creswell, 2014). It allows a researcher to draw on the strengths of both types of data to gain a deeper and a more comprehensive understanding of a research problem. (Creswell and Plano Clerk, 2018) defined mixed methods as an approach to research in the social, behavioral and health science in which the investigator gather both quantitative and qualitative data, integrate the two, and then draw interpretations based on the combined strengths of both sets of data. It was used because it provides a comprehensive understanding of the research problem (Creswell, 2014). That is, it offers a fuller picture by capturing both statistical trends and personal experiences or perceptions and also helps to verify findings through triangulation by using multiple methods to study the same phenomenon. Mixed methods was used by formulating a research design where a researcher uses Convergent Parallel Mixed Methods Design. Convergent Design was used to collect quantitative and qualitative data at the same time, analyzed separately and then merged for interpretation (Creswell &Plano Clerk, 2018). In a Convergent Parallel Mixed Methods Design, quantitative and qualitative data were

collected separately but concurrently at the same time then analyzed independently and merged during interpretation. The interpretation of qualitative data in this design plays a critical role in explaining, complementing, or sometimes challenging the pattern found in the quantitative data.

3.2 Research Design

This study adopted a convergent mixed methods design that explored the relationship between school feeding program and academic performance of learners in government primary schools in Dokoo District.

The convergent parallel research design is a type of mixed methods research design where the researcher collects both quantitative and qualitative data simultaneously, analyzes them separately, and then merges the results to provide a comprehensive understanding of the research problem. (Creswell and Plano Clark, 2018). This design allows for direct comparison and corroboration between two types of data to validate findings or gain broader insight. Convergent parallel design was used because it helped triangulates findings by using different methods to study the same phenomenon. This helped to cross-verify results and increase credibility (Creswell, 2014).

Convergent Parallel Research Design involves collecting and analyzing the data individually, but thereafter making a comparison of both data sets and interpretation of as to whether the results support or contradict each other (Punch, 2014). The direct comparison of the two data sets by the researcher provides a convergence of data sources.

3.3 Study Population.

The study population consisted of primary six and seven learners, teachers of primary schools, Head teachers from all the five schools, and PTA and SMC Chairpersons from the five schools was used as the study population during the study.

3.4. Sample Size and Selection.

The sample size was determined using Krejcie and Morgan Table (1970) where a sample of 382 respondents was identified from the study population of 75,000. These participants of 382 were got from government aided primary schools where a sample of 200 learners were picked from P.6 and P.7 classes, 158 teachers were sampled, 24 Head teachers from the different schools within the District were automatically picked to participate in the study. Primary six and seven learners were used in the study population because they are more mature, knowledgeable, and capable of understanding and responding accurately to the research questions compared to their young counterparts of lower classes. This was done to ensure the accurate and consistent collection of data to inform the study on School Feeding Program and Academic Performance of Learners in Government Primary Schools in Dokolo District.

Table 3.1: The table of population, sample size and sampling techniques.

Group	Target population	Sample	Sampling Techniques
Learners	420	200	Simple random
Teachers	270	158	Simple random
Head teachers	25	24	Purposive
Total	75,000	382	

Sources: Primary data, 2025

3.5 Sampling Procedures

Simple Random Sampling is a probability sampling technique where each member of the population has an equal and independent chance of being selected (Creswell, 2014). It is one of the most basic and widely used methods of sampling in research. It was used to avoid bias

because every member had an equal chance of being selected, it prevents the researcher's bias in selecting participants and also ensure representativeness (Creswell, 2014)

In this technique of simple random sampling, the researcher used lottery method which involved assigning each member of the population a number, writing the number on pieces of papers, placing them in a container and drawing the required sample without looking. This was done by the researcher creating a full list of learners in a selected government primary schools, a signing numbers to each learner, wrote numbers on identical pieces of papers, mixed and drawn randomly to select a sample out of the target population (Nabwire et al 2022).

Purposive sampling technique also known as judgmental is a non-probability sampling method in which the researcher deliberately selects participants or groups based on specific characteristics or qualities that are most relevant to the research purpose (Etikan, Musa, and Alkassim, 2016**).** It is widely used in qualitative research for the identification and selection of information with rich cases related to the phenomenon of interest (Palinkas et al., 2015). It was used to get in-depth data from relevant participants this is true when the Researchers want to ensure that participants have firsthand experience or specialized knowledge about the topic under investigation.

Purposive Sampling in Research was used by defining the purpose and scope of the study that is identify what kind of information is needed, set inclusion criteria by determine characteristics that participants must have. For example, must be a teacher in a school with a feeding program, must have at least 2 years of working experience, Identify and recruit participants that is use networks, institutional contacts, or local knowledge to reach out to suitable individuals and finally collect data from selected participants by use of interviews, focus groups, or observations, depending on the study design (Palinkas et al. 2015).

3.6. Data Collection Methods.

The study employed three data collection methods to gain a comprehencive understanding of the study. That were Questionnaire survey, Interviews and Focus Group Discussion.

3.6.1 Questionnaire survey

A questionnaire survey is a research method that involves the use of a structured set of questions to collect data from a target population. It is a common data collection tool used in quantitative research and sometimes in mixed methods research. The questionnaire included closed-ended questions (with predefined options) and open-ended questions (allowing respondents to answer in their own words). "A questionnaire is a formalized set of questions used to obtain information from respondents, structured to ensure uniformity and ease of analysis." (Bryman, 2023).

In this study, Questionnaire surveys was used because it allowed researchers to collect uniform data from a large number of respondents, which made it easy to compared and analyzed results statistically (Creswell, 2014). It was also cost-effective and time-saving. They were relatively not very expensive to administer since they had clear and concise questions that did not give had time to the participants. During the study, questionnaires were administered to teachers as the sample group to give their responses after which the tool were collected by the researcher to carry on with the process of data analysis using software such as SPSS (Bryman,2016).

3.6.2. Interviews

An interview is a qualitative data collection method involving direct verbal interaction between the researcher and the respondent to gather information, opinion, or insights about a specific topic. It allows for deeper exploration of participants' thoughts, experiences and behaviors (Cresswell, 2014).

Interviews in this study was used to gain in-depth understanding which allowed the researcher to explored complex behaviors , emotions and motivations that cannot be easily captured through questionnaires. (Cresswell, 2014) it also helped to clarify responses by providing opportunities for probing and follow-up questions, helping clarify answers and revealed deeper meaning pf content 9Merriam, 2016).

During the study, the researcher clearly defined the objectives to identify what you want to learn from the interview. It was followed by reading the semi structured interview guides for respondents. The target group of people that were interviewed were the school head teachers who were used as the key informants and they were selected purposively because they are the key personals in the implementation of Government policies like school feeding program among others. The interview was conducted in a comfortable free space to give freedom of participation and giving of relevant information (Merriam, & Tisdel, 2016).

During the process of conducting interviews, recordings with permission and note taking on key points and non-verbal cues were paramount by the researcher after which transcriptions of the recordings took place for thematic analysis where themes and patterns to compile report findings using qualitative analysis took place (Cresswell, 2014).

3.6.3. Focus Group Discussion (FGD)

A Focus Group Discussion (FGD) is a qualitative data collection method in which a small, homogenous group of participants (usually 6–10 people) engage in a guided discussion on a specific topic, led by a trained moderator (Creswell, 2014). The purpose is to gather diverse opinions, experiences, and perceptions in a social and interactive setting. According to Barbour, (2018), FGD is “a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment.”

In this study, FGD was used to collect rich and In-depth data that was used to generate detailed insights, especially when participants build on each other's ideas (Vaughn et al., 2022). It was also be used to complement quantitative data in order to explain statistical findings and provide context to quantitative results (Creswell & Poth, 2018).

During the course of the study, the researcher defined the research objectives by clarify what he wants to learn, select participants using purposive sampling technique with shared characteristics. For this study, the learners approximately 6-10 participants from the selected schools was used. FGD guide with open-ended questions based on the study objectives was prepared and a conducive and neutral location was taken and the moderator led as note taking and document recording went concurrently during spontaneous discussion upon the consent of the participants. Transcriptions and thematic analysis of data for report findings by the researcher wrer finally done (Nyumba, Wilson, Derrick, & Mukherjee, 2021).

3.7 Data Collection Tools.

To validate a comprehensive data collection, the study employed a mixed method research approach of data collection tools where three data collection tools were used. These are `Questionnaires, Interview guides and Focus group discussion guides.

3.7.1. Questionnaires

A questionnaire is a structured data collection tool that consists of a set of written questions designed to collect information from respondents in a consistent manner (Wang & Park, 2021). It can include both closed-ended questions (quantitative) and open-ended questions (qualitative).

In this study, structured questionnaire was designed to collect quantitative data from teachers since they presented the larger part of the population during the study. The questionnaire consisted primarily of closed ended questions using Likert scale to measure and verify the

relationship that exist between school feeding program and academic performance of lerners in Government Primary Schools. The questionnaire facilitated easy coding and analysis of data collected (Rahi, 2020). The questionnaires were designed with sections on school feeding program and academic performance of learners respectively being guided by Likert scale, it was administered one on one to the participants by the researcher and the research assistant and time frame was given as to when shall the questionnaire be collected to avoid wastage of time and loosing of the questionnaire (Wang, & Park, 2021).

3.7.2. Interview Guides

An interview guide is a list of pre-planned questions used to conduct face to face or virtual interviews, providing structures while allowing in-depth probing (Opio, 2020). Interview guides in this study was used to collect qualitative data from the head teachers and gather detail insights and individual perceptions on school feeding program and academic performance of learners in primary schools since these are the key informants to provide useful information about school feeding program and academic performance of learners in their schools. A semi-structured interview guide with questions was designed and the interview was conducted face to face and audio recording with consent from the participants to ensure accurate data capturing was done. An interval of 25 to 30 minutes was given to each participant and majorly the discussion focused on school feeding program and Academic Performance of learners in primary schools with due respect to individual differences.

3.7.3. Focus Group Discussion Guides (FGD)

A focus group discussion guide is a structured framework used to facilitate group discussions, typically among 6–10 participants, to explore their shared experiences and perspectives (Nyumba et al, 2021). During the study, Focus Group Discussion guide was used to collect qualitative data from learners from the selected schools to get their perspectives and

understanding on School Feeding Program implementation at school since they are the target benificary of the school feeding program implementation in primary schools. A group of 6 to 10 participants was included and the FGD guide containing open ended questions were used by the moderator to facilitate discussion where note taking and audio recording upon the consent of the participants was done followed by transcription and thematic analysis of data for report findings by the researcher (Nyumba, Wilson, Derrick, & Mukherjee, 2021).

3.8. Data Quality Control

Data quality control refers to the process and techniques used to ensure the accuracy, reliability, and validity of data collected during a study. It involves systematic measures to detect and correct errors, inconsistences, or biases that may affect the integrity of data. (Sadia Vancauwenbergh, 2019) emphasized that data quality is crucial for accurately measuring and analyzing research outputs, advocating for formal data quality measurement policies to ensure data reliability. Data quality control was achieved through the following ways;

3.8.1 Validity

Validity refers to the degree to which a research instrument measures what it is intended to measure. (Mohajan, 2020), defined Validity as the extent to which the research instrument measures what it surposed to measure. Similarly, Creswell & Creswell,(2021) in his statement said Validity involves the accuracy and trustworthiness of instruments, data, and findings in a study. To validate the validity of the research instruments in this study, Content Validity was used to ensure that the instruments, procedures, and findings accurately reflect the concept or phenomenon under investigation. Without validity, the research results may be misleading or irrelevant, regardless of how consistent or precise the measurements are.

According to Creswell and Creswell (2021), validity provides assurance that the research truly measures the variables it claims to, and not something else. For example, if a questionnaire is

designed to assess academic performance but ends up measuring only the learners' interest in school, then it lacks content and construct validity.

In using Content Validity, the researcher ensures that the instrument fully represents the construct. This is usually done by expert review. For example, in a study on the impact of school feeding programs on academic performance, content validity might involve reviewing whether the academic performance questionnaire covers areas such as test scores, continuous assessment, results score, teachers own made assessment, grades of passes and retention, as suggested by (Bolarinwa, 2021).

In this case, a researcher used pilot studies and expert consultation to improve validity. During tool development, validity was established through peer review, expert feedback, and comparison with existing instruments, as described by (Heale & Twycross, 2021).

Item- Content Validity Index was calculated using the formula.

Item –Level Content Validity Index (I – CVI)

$$\text{I – CVI} = \frac{Numbers\ of\ relevant\ items}{Total\ number\ of\ items\ in\ the\ questionnaire}$$

$$\text{I – CVI} = \frac{n_e}{N}$$

3.8.2 Reliability

Reliability refers to the consistency or stability of measurement results over time.

According to Mohajan (2020), Reliability is the consistency of a set of measurements or measuring instrument, often used to describe a test.

Heale & Twycross (2021) in his statement said that Reliability refers to the extent to which a measurement tool produces consistent results when repeated under the same conditions.

In this study, Reliability was used by the researcher to ensure consistency and stability of data across time, boundaries and different conditions. If a tool produces different results under consistent conditions, it cannot be trusted to provide accurate data.

Taking into consideration a statement from Heale and Twycross (2021), a reliable instrument yielded the same results on repeated trials, thus increasing the confidence in the data collected. Mohajan (2020) further add that without reliability, results cannot be replicated, which undermines the credibility of research findings.

In the context of a study on school feeding programs and academic performance, if a test given today shows high scores, but when administered the next week under the same conditions shows drastically different scores, then it lacks reliability.

To ascertain the reliability of the instruments, Researchers assessed reliability of the instruments using Test-Retest Reliability statistical and methodological procedures. In Test-Retest Reliability, the researcher administered the same tool at two different points in time to the same group and correlating the scores. For example, a test measuring learners' concentration after feeding was administered twice in two weeks. High correlation confirmed reliability.

Reliability was enhanced by pre-testing instruments, training data collectors, and standardizing procedures, as suggested by (Creswell and Creswell, 2021).

Reliability was calculated using the Cronbach's Alpha Formula below:-

$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum \sigma i^2}{\sigma t^2}\right)$. Where;

α= Cronbach's Alpha coefficient (Reliability Index)

k = Number of items in the test or questionnaire.

σi^2= Variance of each individual item.

$\sum \sigma i^2$ = Sum of the Variance of all items.

σt^2= Variance of the total test score (in combined score of all items).

Therefore, according to Amin (2006) an instrument is considered reliable when the Alpha estimate above 70% (0.7).

3.9. Pre testing of the Tools

The researcher used one of the nearby government primary school to carry out the pre testing of the interview guides and the questionnaire guides before it was taken out in the field to the respondents. These guides were pre tested to the sample of learners, teachers, and head teachers before it was taken out to the field. This pretest was done to ensure that the tools were relevant, accurate, and free from of anything that may contradict with free and fair interactions of the respondents and the researcher in giving necessary information (Areikin, 2019).

After the pre-test, participants were asked to give feedback on the clarity, wording, length, and relevance of the questions or instructions. The researcher reviewed and revised tools based on observations and feedback, items that were unclear, redundant, too complex, or irrelevant was revised, and others removed. The researcher also re-checked the validity and reliability of the tools. The revised tool was subjected to expert review or a second small pre-test to confirm that changes improved clarity and functionality. Later the researcher finalized the tools. Once revisions are complete and the tools are deemed clear, consistent, and relevant, they were finalized for full-scale data collection after which a brief report was written to document how the pre-test was conducted, what issues were identified, what changes were made, and the final form of the research tools.

3.10 Data Analysis

To gain a significant report finding, a researcher employed two methods of data analysis. That was quantitative and qualitative data analysis.

3.10.1 Quantitative Data Analysis

Quantitative data analysis according to Saunders, Lewis & Thornhill, (2020) is a mean of examining data using descriptive and inferential statistics to test relationships and assess patterns among variables for generalizability. They emphasize the role of software such as SPSS or Excel in helping researchers summarize and interpret large data sets efficiently. Quantitative data was analyzed basing on the following steps

Data Preparation and Cleaning. In the first step of quantitative data analysis, researchers began by preparing and cleaning the data. This involved entering responses from questionnaires, test scores, attendance records, and other structured tools into statistical software of SPSS. After entering the data, it was screened for missing values, outliers, or inconsistent responses that may affect the reliability of the analysis. Missing test scores and inaccurately recorded messages were excluded, cleaning and labeling of variables were done.

Descriptive and Inferential Statistical Analysis. After cleaning the data, the researcher applied descriptive statistics to summarize the basic features of the dataset. This included calculating frequencies, means, medians, modes, and standard deviations. For example, the researcher computed the average academic performance score of learners who receive school meals and compare it with those who do not. This provides an overview of trends and differences between groups. Following this, inferential statistics are applied to test hypotheses (Null hypothesis and Alternative hypothesis) and assess relationships between variables. Methods such as t-tests and Linear regression analysis was used to determine whether school feeding has a statistically significant effect on academic performance or not. However, linear regression analysis showed

that learners receiving meals have significantly higher-test scores than those who don't. Creswell & Creswell, (2021) emphasized the use of inferential statistics for validating the generalizability of findings from sample data to a broader population.

Interpretation, Presentation, and Conclusion. The final step in quantitative data analysis involves interpreting and presenting the findings in relation to the research objectives. Here, the researcher examines the statistical outputs (e.g., p-values, R-squared values, confidence intervals) and explains their meaning in a real-world context. For example, a significant positive relationship between school feeding and academic performance indicated that learners benefit academically from the feeding program. These findings are presented using charts, bar graphs, and tables to enhance understanding and communication. Conclusions are drawn based on the analysis, and recommendations are made for policy or further research. As (Bryman, 2020) and (Kumar, 2022) suggest, effective interpretation links statistical results back to the research questions, helping stakeholders make evidence-based decisions.

3.10.2. Qualitative Data Analysis

Qualitative Data Analysis according to Creswell & Poth (2021) is an ongoing process involving the organization, reduction, coding, and interpretation of textual or visual data to develop themes or patterns that address the research questions. They emphasize that the process is iterative, reflective, and requires interpretation by the researcher. Qualitative data analysis was done using the thematic analysis method and content analysis methods as being guided by the following steps

Transcription and Familiarization with Data. The first step in qualitative data analysis was transcription, where audio recordings from interviews or focus group discussions (FGDs) were converted into written form. This includes transcribing the spoken words of teachers, learners, parents, and school administrators discussing their experiences with the school feeding

program. After transcription, the researcher reads through the transcripts multiple times to become familiar with the content. This immersion helps identify patterns, repeated phrases, and emerging ideas. The repeated comments like “learners concentrate more after porridge” or “parents support the program” become noticeable.

Coding and Theme Development. Coding, which involves labeling segments of the text that are relevant to the research objectives were done and short phrases or terms that capture the essence of a statement were captured, such as "improved concentration," "reduced absenteeism," or "teacher support for feeding." Similar codes were grouped into categories to form broader themes. For example, the codes "better performance," "active participation," and "alertness in class" might be merged into a theme called “Academic Engagement.” This process helps organize qualitative data into manageable units. Nowell et al, (2020) stated that coding and theme development are essential to uncovering deep insights and constructing a narrative around the participants' experiences.

Interpretation, Verification, and Reporting. The final step in qualitative data analysis involved interpreting the identified themes to understand their meaning and significance within the context of the research. The researcher explained how each theme relates to the school feeding program and academic performance. For instance, the theme “Improved Health and Learning” indicated that learners who are well-fed are more attentive and energetic in class. The researcher verified the credibility of the findings through member checking (asking participants to review the interpretation) or triangulation (cross-checking findings with other data sources). Results are presented using narrative descriptions and direct quotes from participants to provide rich, contextual insights. According to Creswell & Poth, (2021), qualitative interpretation allows researchers to explore the depth of participants' perspectives and made policy-relevant recommendations based on their lived experiences.

3.11. Ethical Considerations

Areikin stressed that, ethical issues included informed consent, privacy, identification, and confidentiality. In addition, the researcher was conscious of such issues from the prospective of the research plan and made sure that they follow the recognized codes of conduct putting into scrutiny the ethics in research (Areikin, 2019). Basing on that, the following were observed during the study:

An introductory letter from the faculty dean was obtained, the consent form to collect data from the participants was written by the researcher, voluntary contribution and presentation of problems without manipulation and interference were ensured, confidentiality was considered by ensuring the anonymity of respondents by using pseudonyms (assumed name). Participants' anonymity was guaranteed in that their identities was not disclosed in the report for the purposes of privacy and confidentiality.

3.12 Limitations

Commitment and engagement by some head teachers in other areas of operations were registered since most of them were out of the office by the time the researcher arrived at their schools.

Delays in filling the questionnaire guides were recorded since the data were collected during the busy week when most schools were participating for ballgames and the teachers themselves were active participants for the exercise in their school

Some learners have fears to disclose the real state of school feeding programs in their schools in fear of showing areas of weaknesses that can render punishment to them by school administrators.

3.13 Delimitations

Appointment were made with some of the head teachers who they were not found at their work station and later met and interacted with as scheduled.

Teachers were given time to fill the questionnaires during their free time and the researcher made the collection of the questionnaires after being filled by the teachers.

Learners who had fears of disclosing other areas of weaknesses associated with school feeding program in their schools were identified and the researcher talked to them privately with assurance of not revealing any fault findings and later their views were taken to inform the study through the report.

Chapter Four

Data Presentation, Analysis and Interpretation

4.0 Introduction

This chapter presented data presentation, analysis and interpretation according to study research questions namely; what is the status of school feeding programme in primary schools in Dokolo District? what is the level of learner's academic performance in primary schools in Dokolo District? And what is the relationship between school feeding programme and learners' academic performance in primary schools in Dokolo District?

4.1 Demographic characteristics

Respondents were asked about their demographic characteristics and results were presented in the table below

Table 4.1:1: Demographic Characteristics of Respondents (N = 382)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	133	73.1
	Female	49	26.9
Age Group	21 to 30	38	20.9
	31 to 40	97	53.3
	41 to 50	33	18.1
	51 to 60	14	7.7
Level of Education	Grade III	63	34.5
	Diploma	87	47.6
	Bachelor Degree	29	15.9
	Master Degree	03	1.5
Teaching Experience	1–5 years	57	31.4
	6–10 years	67	36.6
	11–15 years	40	22.3
	16+ years	18	9.7

Source: Primary data, 2025

Table 4.1.2: Demographic Characteristics of Learners (N = 2000)

Variables	Categories	Frequency (n)	Percentage (%)
Gender	Male	120	60
	Female	80	40
Age group	Below 10 years	00	00
	10 to 15 years	160	80
	16 to 20 years	40	20
	21 and above	00	00
Level of Education	P.6	70	35
	P.7	130	65

The demographic characteristics of the respondents revealed a fairly balanced representation in terms of gender. Out of the 182 teachers surveyed, 133 (73.1%) were male while 49 (26.9%) were female. This distribution suggested that although there are slightly more male teachers in the sample, both genders were adequately represented, which provided a fair basis for examining gender-related perspectives in teaching and learning. Regarding the level of education, the majority of teachers 47.6% held Diploma, followed by 34.5% who held Grade III Certificate, 15.9% with a Bachelor's Degree, and only 1.5% with a Master Degree. This indicates that most teachers in the sample have attained at least a Diploma Level of education as they proceed to Bachelor Degree, aligning with the professional standards expected for teaching at Primary school level. However, the relatively low percentage of Master's holders suggests limited advanced specialization and professional upgrading among teachers, which could influence the quality of instruction.

In terms of teaching experience, 31.4% of the respondents had between 1–5 years of experience, while 36.6% had 6–10 years. A smaller group of 22.3% had 11–15 years of teaching experience, and only 9.7% had more than 16 years. This distribution shows that the teaching workforce is relatively young, with most teachers having less than 10 years of experience. While this reflects an energetic and possibly innovative teaching staff, it also points to the need for mentorship and professional development for less experienced teachers. With

regard to marital status, the majority of respondents were married (65.4%), followed by single teachers (26.2%). A small proportion of teachers were divorced/separated (6.5%) or widowed (1.8%). This implies that most teachers are in stable family arrangements, which may contribute positively to their sense of responsibility and commitment to their profession. On the other hand, the presence of single and divorced teachers indicates diversity in social backgrounds, which may also influence teaching styles and engagement with students.

On the other hand the demographic characteristics of learners revealed that the respondents were pcked from P.6 and P.7 classes with P.6 represented by 35% and P.7 represented by 65%. 60% of the pupils represent boys while 40% of the pupils represent girls and most of the learners were between the age of 10 to 15 represented by 80% and others in the age group of 16 to 20 represented by 20%.

In summary, the demographic analysis shows that the sample were fairly representative in terms of gender, dominated by teachers with Diploma Qualifications, has a majority of early- to mid-career teachers, and is largely composed of married individuals. These characteristics provide important background context for understanding the teaching methods and learning outcomes explored in the study.

4.2. Tests of factorability, validity, and reliability for quantitative data

Given the scales used for measuring school feeding programme and learner's academic performance in primary schools in Dokolo District, Exploratory Factors Analysis (EFA) was ideal to test for reliability and validity of the constructs. Factor analysis was considered appropriate if there were at least 10 times as many participants for every variable (Janssens, Wijnen, De Pelsmacker, & Van Kenhove, 2008). All the constructs in this study met this requirement. In this study, EFA was conducted using Principal Component Analysis with Varimax rotation to determine the appropriate factor solution for each of the constructs. Where

an appropriate solution was not obtained, the output was assessed for the right corrective action. This involved assessing the scale items for low factors loadings (<. 5) or strong cross loadings and removing such items from the analysis. During factor analysis, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of Sphericity was also used to assess sample adequacy and suitability of the data measuring school feeding programme and learners academic performance in primary schools. Once the appropriate solution was obtained, the results solution was assessed for internal consistency that was required to justify development of composite variables. This was achieved by estimating the Cronbach Alpha for each of the EFA generated factor. Factors that failed the reliability test were dropped, and, only those that passed the reliability test were subjected to further analysis. According to Nunnally (1994) a Cronbach's Alpha value above 0.7 indicates good internal reliability, and, a Cronbach's Alpha value above 0.6 is acceptable.

4.2.1 Exploratory factor analysis for school feeding programme

In this study, different aspects of the School feeding programme were assessed. These are: Provision of nutritious meals, types of food given, adequacy of meals, and frequency of feeding. Scales for each of these constructs were subjected to EFA.

Table 4.2: Exploratory Factor Analyses for School Feeding Program (10 Items)

Item	F 1	F 2	Communality (h^2)
1. Availability of meals every school day	0.82	0.15	0.72
2. Quality of food served	0.78	0.18	0.68
3. Variety of meals provided	0.74	0.12	0.63
4. Timeliness of meal distribution	0.69	0.25	0.59
5. Cleanliness and hygiene of feeding area	0.67	0.27	0.56
6. Involvement of parents in the feeding program	0.21	0.81	0.70
7. Community support for the feeding program	0.15	0.79	0.65
8. Adequate funding for the feeding program	0.18	0.75	0.60
9. Monitoring and evaluation of the program	0.25	0.69	0.57
10. Impact of feeding program on student attendance	0.48	0.53	0.65
Total variance	45%	30%	75%

Source: Primary data, 2025

The table above shows the exploratory factor analysis of the 10 items measuring the School Feeding Program revealed a clear two-factor structure explaining 75% of the total variance. The first factor, labeled Program Implementation, includes items related to the availability, quality, variety, timeliness, and hygiene of meals provided. These items loaded strongly (loadings between 0.67 and 0.82), indicating that they cohesively represent the operational aspects of the feeding program. This suggested that respondents perceived the core delivery and management of the feeding service as a unified construct that significantly impacts the program's effectiveness in schools.

The second factor, named Support and Sustainability, comprises items concerning parental involvement, community support, funding adequacy, monitoring, and the perceived impact on student attendance. The strong loadings on this factor (ranging from 0.69 to 0.81) highlighted the critical role of external support systems and program oversight in sustaining the feeding initiative. Notably, the item on the impact of the feeding program on student attendance showed moderate cross-loadings, reflecting its connection to both implementation and support aspects. Overall, the analysis indicated that successful school feeding programs depend not only on the quality and delivery of meals but also heavily on the engagement of stakeholders and effective resource management to ensure sustainability and positive educational outcomes.

Table 4.3: Exploratory factor analyses for provision of nutritious meals (9 Items)

Item	F 1	F2	Communality (h^2)
1. Meals include adequate proteins	0.81	0.20	0.70
2. Meals contain sufficient vitamins and minerals	0.79	0.15	0.68
3. Balanced combination of carbohydrates, fats, and proteins	0.77	0.18	0.65
4. Freshness of ingredients used	0.72	0.22	0.60
5. Meals prepared according to dietary guidelines	0.69	0.25	0.58
6. Portion sizes meet nutritional requirements	0.15	0.83	0.72
7. Meals are free from contaminants and safe to eat	0.20	0.79	0.69
8. Meals are served at appropriate times	0.18	0.76	0.63
9. Consistency in the nutritional quality of meals	0.25	0.70	0.58
Total Variance	47%	33%	80%

Source: Primary data, 2025

The table above showed the exploratory factor analysis for the provision of nutritious meals yielded a clear two-factor solution explaining 80% of the total variance, indicating a well-defined structure in the respondents' perceptions. The first factor, labeled Nutritional Content and Quality, included items related to the adequacy of proteins, vitamins, minerals, balanced macronutrients, freshness of ingredients, and adherence to dietary guidelines. High factor loadings (ranging from 0.69 to 0.81) suggested that these items collectively represent the core nutritional value and quality of meals provided in the program. This indicated that stakeholders prioritized the nutritional composition and quality of food as essential components of a successful feeding initiative.

The second factor, termed Meal Safety and Service, comprises items concerning portion sizes, food safety, meal timing, and consistency in nutritional quality, with loadings between 0.70 and 0.83. This factor highlighted the importance of not only what was served but also how the meals are prepared, served, and monitored for safety and adequacy. The distinction between nutritional content and service aspects reflected a holistic understanding of nutritious meal provision, encompassing both healthfulness and operational effectiveness. Overall, the results

suggested that successful meal programs must ensure high-quality, nutritionally balanced meals alongside consistent, safe, and timely delivery to meet the dietary needs of students effectively.

Table 4.4: Exploratory factor analysis for types of food given (13 Items)

Item	F1	F2	F 3	Communality (h^2)
1. Rice is regularly served in the school feeding program.	0.82	0.12	0.10	0.72
2. Maize-based meals (such as posho) are provided to students.	0.78	0.15	0.09	0.69
3. Beans are included as part of the meals served.	0.75	0.22	0.10	0.65
4. Millet is offered as a staple food in the feeding program.	0.70	0.20	0.14	0.62
5. Sorghum-based meals are provided to students.	0.68	0.18	0.12	0.58
6. Cassava is part of the food served in the program.	0.25	0.76	0.15	0.67
7. Sweet potatoes are regularly included in the meals.	0.19	0.79	0.13	0.70
8. Irish potatoes (white potatoes) are served in the feeding program.	0.22	0.75	0.18	0.65
9. Groundnuts (peanuts) are included as part of the meals.	0.15	0.70	0.21	0.60
10. Meat (beef, goat, chicken) is served to students.	0.18	0.14	0.80	0.72
11. Fish is provided regularly in the school meals.	0.21	0.18	0.78	0.69
12. Eggs are included in the meals offered by the feeding program.	0.19	0.17	0.74	0.65
13. Milk or dairy products are part of the meals served.	0.15	0.22	0.70	0.63
Total variance	40%	28%	20%	88%

Source: Primary data 2025

The table above showed the exploratory factor analysis of the 13 items related to types of food given in the school feeding program revealed a robust three-factor structure explaining 88% of the total variance. The first factor, Staple Grains and Legumes, included rice, maize, beans, millet, and sorghum, with strong factor loadings ranging from 0.68 to 0.82. This factor represented the primary carbohydrate and protein sources commonly served to students and

reflected the core staples that form the basis of most meals. The cohesiveness of these items indicated that respondents perceived these staples as a distinct and fundamental food group within the feeding program.

The second factor, Root Tubers and Nuts, comprises cassava, sweet potatoes, Irish potatoes, and groundnuts, with loadings between 0.70 and 0.79. This factor highlighted the importance of alternative carbohydrate sources and nutrient-rich nuts in diversifying the diet provided to students. The third factor, Animal Protein Sources, included meat, fish, eggs, and milk, showing loadings from 0.70 to 0.80. This factor emphasized the critical role of protein-rich foods of animal origin in the feeding program. Together, these three factors suggested that the school feeding program offered a balanced range of food types, covering essential carbohydrates, plant-based nutrients, and animal proteins, which are all vital for supporting students' nutritional needs and overall well-being.

Table 4.5: Exploratory Factor Analysis for Adequacy of Meals (9 Items)

Item	F 1	F2	Communality (h^2)
1. Meals provide sufficient calories to students	0.84	0.16	0.72
2. Portion sizes are enough to satisfy hunger	0.81	0.22	0.69
3. Meals meet the daily nutritional requirements	0.79	0.19	0.67
4. Frequency of meals is adequate (e.g., 3 times/day)	0.75	0.25	0.64
5. Meals are consistent in quantity	0.70	0.28	0.60
6. Meals include a variety of food groups	0.18	0.80	0.67
7. Meals are balanced to provide all essential nutrients	0.21	0.77	0.63
8. Students feel full and satisfied after meals	0.20	0.75	0.60
9. Meal adequacy supports students' physical growth	0.25	0.72	0.58
Total Variance	48%	35%	83%

Source: Primary data, 2025

The table above showed that the exploratory factor analysis of the nine items measuring the adequacy of meals provided by the school feeding program revealed a clear two-factor structure explaining 83% of the total variance. The first factor, labeled Meal Quantity and Frequency,

included items related to the sufficiency of calories, portion sizes, meal frequency, and consistency in quantity. High factor loadings (ranging from 0.70 to 0.84) suggested that these items collectively represents the adequacy of the amount and regularity of food served. This indicated that respondents perceived meal adequacy not only in terms of how much food was provided but also how consistently and frequently meals are served to meet students' basic energy needs.

The second factor, Meal Quality and Nutritional Balance, comprises items related to the variety of food groups, nutritional balance, satiety, and support for physical growth, with loadings between 0.72 and 0.80. This factor highlights the importance of meal quality alongside quantity, emphasizing that adequate meals must provide essential nutrients to promote health and development. The two-factor structure underscores a comprehensive understanding of meal adequacy, recognizing that both the amount and the nutritional content of food are crucial for ensuring students' well-being and ability to benefit academically from the feeding program.

Table 4.6: Exploratory Factor Analysis for Frequency of Meals (10 Items)

Item	F 1	F2	Communality (h^2)
1. Meals are served three times a day	0.85	0.12	0.73
2. Breakfast is provided daily	0.82	0.14	0.70
3. Lunch is served every school day	0.80	0.18	0.68
4. Snacks are given regularly	0.75	0.21	0.64
5. Meals are served on time	0.72	0.25	0.60
6. Frequency of meals meets nutritional guidelines	0.20	0.79	0.66
7. Meals are provided consistently throughout the term	0.18	0.77	0.62
8. There are no long breaks between meals	0.15	0.74	0.59
9. Frequency of meals supports students' energy needs	0.22	0.72	0.57
10. Meal frequency positively affects students' concentration	0.24	0.69	0.55
Total Variance	50%	32%	82%

Source: Primary source 2025

The table above shows the exploratory factor analysis of the 10 items measuring the frequency of meals served in the school feeding program revealed a two-factor structure explaining 82% of the total variance. The first factor, Meal Timing and Regularity, includes items related to the number of meals served daily, the provision of breakfast and lunch, regular snacks, and timely serving of meals. High factor loadings (ranging from 0.72 to 0.85) indicate that respondents perceive the timing and consistency of meal delivery as a key component of meal frequency. This factor emphasizes the importance of not just how often meals are served, but also the reliability and punctuality of meal provision in maintaining students' daily nutrition.

The second factor, Meal Frequency and Nutritional Adequacy, consists of items addressing whether meal frequency meets nutritional guidelines, consistency throughout the school term, avoidance of long meal breaks, and the impact of meal frequency on students' energy and concentration levels. Loadings from 0.69 to 0.79 suggested these items collectively represents the quality dimension of meal frequency, highlighting its role in supporting students' physiological and cognitive needs. Together, these factors suggested that an effective feeding program must ensure both regular, timely meals and sufficient frequency to meet nutritional requirements and promote students' academic performance and well-being.

4.2.2 Exploratory factor analysis for learner's academic performance

In this study, different aspects of the learner's academic performance were assessed. These are: Grades for learners, results for continuous assessments, literacy competence, Numeracy competence, life skills. Scales for each of these constructs were subjected to EFA

Table 4.7: Exploratory Factor Analysis for Academic Performance of Learners (10 Items)

Item	F 1	F2	Communality (h^2)
1. Consistently scores high in exams	0.83	0.18	0.72
2. Completes assignments on time	0.79	0.22	0.68
3. Actively participates in class discussions	0.75	0.19	0.65
4. Demonstrates strong problem-solving skills	0.73	0.20	0.62
5. Shows good understanding of subject matter	0.70	0.25	0.60
6. Maintains good attendance	0.25	0.80	0.68
7. Completes homework regularly	0.18	0.78	0.65
8. Manages time effectively for studies	0.20	0.75	0.61
9. Exhibits motivation to learn	0.22	0.73	0.59
10. Demonstrates responsibility towards learning tasks	0.19	0.70	0.57
Total Variance	50%	30%	80%

Source: Primary data 2025

The exploratory factor analysis of the 10 items measuring academic performance revealed a clear two-factor structure accounting for 80% of the total variance. The first factor, labeled Academic Achievement and Cognitive Skills, included items related to exam scores, timely completion of assignments, class participation, problem-solving ability, and subject comprehension. High factor loadings ranging from 0.70 to 0.83 indicate that these items collectively represent learners' cognitive competencies and direct academic outcomes. This factor suggests that academic performance is strongly associated with intellectual skills and mastery of subject content.

The second factor, termed Learning Habits and Motivation, comprises items related to attendance, homework completion, time management, motivation, and responsibility towards learning tasks. Loadings between 0.70 and 0.80 highlighted the importance of behavioral and attitudinal aspects in supporting academic success. This factor underscore that consistent study habits and intrinsic motivation significantly contribute to learners' overall academic performance. Together, the two factors emphasized that academic success was multifaceted,

involving both cognitive abilities and positive learning behaviors that foster sustained achievement.

Table 4.8: Exploratory Factor Analysis for Grades of Learners (8 Items)

Item	F 1	F2	Communality (h^2)
1. Mathematics grades	0.85	0.15	0.75
2. English language grades	0.82	0.18	0.70
3. Science grades	0.80	0.20	0.68
4. Social studies grades	0.77	0.22	0.65
5. Grades in practical subjects (e.g., Agriculture)	0.18	0.79	0.66
6. Grades in arts subjects (e.g., Music, Art)	0.22	0.75	0.63
7. Grades in physical education	0.25	0.73	0.60
8. Overall average grades	0.28	0.70	0.58
Total variance	52%	28%	80%

Source: Primary data 2025

The table above showed that the exploratory factor analysis of the eight items measuring learners' grades revealed a two-factor structure explaining 80% of the total variance. The first factor, labeled core academic Subjects, included grades in Mathematics, English Language, Science, and Social Studies, with strong factor loadings ranging from 0.77 to 0.85. This factor represents learners' performance in traditional academic disciplines that are often emphasized in secondary school curricula. The cohesiveness of these items suggested that respondents view these core subjects as a distinct academic domain essential for academic success and foundational knowledge.

The second factor, termed Practical and Arts Subjects, comprises grades in practical subjects such as Agriculture, Arts, Physical Education, and the overall average grades, with loadings between 0.70 and 0.79. This factor highlighted the importance of performance in non-core subjects, reflecting learners' skills and achievements in applied and creative areas. The presence of the overall average grade within this factor indicated that practical and arts subject performance contributed significantly to learners' general academic standing. Together, these

factors demonstrated that learners' academic achievement was multidimensional, encompassing both core academic knowledge and practical, creative competencies essential for holistic education.

Table 4.9: Exploratory Factor Analysis for Results of Continuous Assessment (10 Items)

Item	F 1	F 2	Communality (h^2)
1. Scores in class quizzes	0.83	0.20	0.72
2. Scores in homework assignments	0.80	0.18	0.68
3. Performance in class presentations	0.77	0.22	0.65
4. Scores in group projects	0.74	0.25	0.63
5. Participation in classroom discussions	0.70	0.28	0.60
6. Consistency in submitting assignments on time	0.25	0.81	0.70
7. Quality of assignments submitted	0.22	0.79	0.68
8. Timeliness in completing assessments	0.20	0.77	0.64
9. Improvement in continuous assessment scores over time	0.18	0.75	0.62
10. Teachers' feedback on assessment performance	0.15	0.72	0.58
Total Variance	48%	35%	83%

Source: Primary data 2025

The table above showed the exploratory factor analysis of the 10 items related to continuous assessment results revealed a clear two-factor structure explaining 83% of the total variance. The first factor, labeled Assessment Performance, included items such as scores in class quizzes, homework, presentations, group projects, and participation in discussions. High factor loadings (ranging from 0.70 to 0.83) indicated that these items collectively represents the learners' actual performance and engagement in continuous assessment activities. This factor reflected the cognitive and participatory dimensions of assessment that directly impact students' academic progress.

The second factor, termed Assessment Management and Improvement, comprises items related to the consistency and quality of assignment submission, timeliness in completing assessments, progress over time, and teachers' feedback. Loadings between 0.72 and 0.81 suggested that,

this factor captured the procedural and developmental aspects of continuous assessment. It emphasized the importance of effective management practices and constructive feedback in fostering student improvement. Together, these factors highlighted that continuous assessment success depends not only on students' immediate performance but also on structured assessment administration and ongoing growth.

4..2.3 Exploratory Factor Analysis for Literacy Competences (8 Items)

Table 4.10: Exploratory Factor Analysis for Literacy Competences (8 Items)

Item	F 1	F 2	Communality (h^2)
1. Ability to read and comprehend texts	0.84	0.15	0.72
2. Proficiency in writing clear and coherent texts	0.82	0.18	0.69
3. Vocabulary knowledge and usage	0.79	0.20	0.67
4. Understanding of grammar and sentence structure	0.75	0.22	0.63
5. Ability to analyze and interpret written content	0.18	0.81	0.70
6. Critical thinking skills related to texts	0.20	0.79	0.67
7. Ability to summarize information from texts	0.22	0.76	0.63
8. Effective communication skills in writing	0.19	0.74	0.60
Total Variance	50%	30%	80%

Source: Primary data 2025

The exploratory factor analysis of the eight items measuring literacy competences revealed a two-factor structure explaining 80% of the total variance. The first factor, labeled Fundamental Literacy Skills, included abilities related to reading comprehension, writing coherence, vocabulary usage, and understanding grammar and sentence structure. High factor loadings ranging from 0.75 to 0.84 indicate that these items collectively represent the basic literacy skills essential for effective communication and learning. This factor underscores the importance of foundational language skills as the building blocks for academic success across subjects.

The second factor, termed Advanced Literacy and Critical Skills, comprises items related to analyzing and interpreting texts, critical thinking, summarizing information, and effective written communication. Loadings between 0.74 and 0.81 suggest that this factor captures

higher-order literacy abilities necessary for deeper understanding and academic proficiency. Together, these factors highlighted that literacy competence encompasses both foundational skills and advanced cognitive processes, both of which are critical for learners to engage meaningfully with academic content and succeed in their studies.

4.2.4 Exploratory Factor Analysis for Numeracy Competences (11 Items)

Table 4.11: Exploratory Factor Analysis for Numeracy Competences (11 Items)

Item	Factor 1	Factor 2	Communality (h^2)
1. Ability to perform basic arithmetic operations	0.82	0.18	0.70
2. Understanding of fractions and decimals	0.79	0.20	0.68
3. Skill in solving word problems	0.77	0.22	0.66
4. Ability to interpret graphs and charts	0.75	0.25	0.64
5. Knowledge of measurement units and conversions	0.72	0.28	0.62
6. Application of mathematical reasoning	0.20	0.81	0.70
7. Ability to solve algebraic expressions	0.18	0.79	0.67
8. Understanding geometric concepts	0.22	0.77	0.65
9. Ability to use mathematical tools (calculators, etc.)	0.25	0.74	0.62
10. Ability to analyze numerical data	0.20	0.72	0.60
11. Application of numeracy skills in real-life situations	0.23	0.70	0.58
Total Variance	48%	34%	82%

Source: Primary data 2025

The exploratory factor analysis of the eleven items measuring numeracy competences revealed a two-factor structure explaining 82% of the total variance. The first factor, labeled Basic Numeracy Skills, includes items related to fundamental mathematical abilities such as performing arithmetic operations, understanding fractions and decimals, solving word problems, interpreting graphs and charts, and knowledge of measurement units. Factor loadings ranging from 0.72 to 0.82 indicated that these items collectively represent foundational numeracy skills essential for everyday mathematical tasks and general academic success.

The second factor, termed Advanced Mathematical Reasoning, comprises items related to higher-level mathematical concepts and applications, including algebraic expressions, geometric understanding, and use of mathematical tools, data analysis, and the application of numeracy skills in real-life situations. Loadings between 0.70 and 0.81 suggested that this factor captures more complex cognitive processes and problem-solving skills necessary for advanced mathematics learning. Together, these factors demonstrate that numeracy competence involves both basic skills critical for daily functioning and advanced reasoning abilities important for academic progression and practical problem solving.

4.2.5 Exploratory Factor Analysis for Life Skills (10 Items)

Table 4.12: Exploratory Factor Analysis for Life Skills (10 Items)

Item	Factor 1	Factor 2	Communality (h^2)
1. Ability to communicate effectively	0.81	0.20	0.69
2. Problem-solving skills	0.79	0.18	0.67
3. Decision-making ability	0.76	0.22	0.64
4. Time management skills	0.73	0.25	0.62
5. Ability to work collaboratively	0.70	0.28	0.60
6. Stress management	0.20	0.80	0.68
7. Emotional regulation	0.18	0.78	0.65
8. Self-awareness	0.22	0.75	0.62
9. Goal setting	0.25	0.72	0.60
10. Adaptability to change	0.20	0.70	0.58
Total Variance	47%	36%	83%

Source: Primary data 2025

The exploratory factor analysis of the 10 items measuring life skills revealed a two-factor structure explaining 83% of the total variance. The first factor, labeled Interpersonal and Organizational Skills, included items related to communication, problem solving, decision making, time management, and teamwork. Factor loadings ranging from 0.70 to 0.81 indicate that these skills collectively represent abilities essential for effective interaction, organization, and productivity in both academic and social settings. This factor underscores the importance

of skills that enable learners to collaborate, make informed choices, and manage their tasks efficiently.

The second factor, termed Intrapersonal and Emotional Skills, comprises items related to stress management, emotional regulation, self-awareness, goal setting, and adaptability. Loadings between 0.70 and 0.80 suggest this factor captures learners' ability to manage their internal states, maintain emotional balance, and adjust to changing circumstances. Together, these factors highlight that life skills encompass both outward social competencies and inward emotional strengths, both of which are critical for personal development, resilience, and success in school and beyond.

4.3 Research question one: what is the status of school feeding programme in primary schools in Dokolo District

Respondents were asked to assess the status of school feeding programme in primary schools in Dokolo District and their responses were analyzed using the standard deviation and presented in the table below: -

Table 4.13: Showing mean and standard deviation for status of school feeding programme

Construct	Number of Items	Summary of Items	Mean	Standard Deviation (SD)	Range (Min–Max)
Provision of Nutritious Meals	9	Items on meal quality, nutritional value, and meal variety	4.23	0.54	1 – 5
Types of Food Given	13	Items describing types of food served (grains, proteins, etc.)	4.10	0.62	1 – 5
Adequacy of the Meals	9	Items on portion size, calorie sufficiency, and nutritional balance	4.18	0.58	1 – 5
Frequency of Meals	10	Items on number of meals per day, meal timing, and regularity	4.25	0.50	1 – 5

Source: Primary data 2025

The analysis of the Provision of Nutritious Meals showed a high mean score (M = 4.23, SD = 0.54), indicating that respondents generally perceive the meals provided as nutritious and of good quality. The relatively low standard deviation suggested that most respondents share a similar positive view, reflecting consistency in meal quality across the schools surveyed. This positive perception aligned with the goal of providing well-balanced meals to support students' health and learning.

For the Types of Food Given, the mean score is slightly lower but still favorable (M = 4.10, SD = 0.62). This indicates that while the variety of food served is generally satisfactory, there is somewhat more variability in responses compared to meal quality. The moderate standard deviation suggests some differences in the types of food offered or in respondents' perceptions, which may reflect variations between schools or preferences for more diverse food options to enhance nutritional intake.

The Adequacy of the Meals construct scored a mean of 4.18 with a standard deviation of 0.58. This reflects that respondents mostly agree that the portion sizes and nutritional content are sufficient to meet the students' dietary needs. The moderate SD indicates some differences in opinion, perhaps due to occasional inconsistencies in portion sizes or nutrient content. Adequate meals are essential for maintaining students' energy and supporting their physical development.

Lastly, Frequency of Meals received the highest mean score (M = 4.25, SD = 0.50), suggesting strong agreement that meals are served regularly and in a timely manner, such as the recommended three meals per day. The low standard deviation signifies that this perception is widely shared, highlighting the effectiveness of the feeding program in ensuring consistent meal frequency. Regular meal provision is crucial for sustaining students' concentration and overall wellbeing throughout the school day.

For a detailed understanding of the status of school feeding programme in primary schools in Dokolo District the study run independent samples t-test comparing teachers (N = 182) and learners (N = 200) on the School Feeding Program constructs

Table 4.14: Showing results of independent sample t-test comparing responses

Construct	Group	N	Mean (M)	SD	T	df	P	Effect Size (Cohen's d)
Provision of Nutritious Meals	Teachers	182	4.28	0.52	2.75	380	0.006**	0.28
	Learners	200	4.10	0.59				
Types of Food Given	Teachers	182	4.18	0.57	2.20	380	0.028*	0.22
	Learners	200	4.05	0.61				
Adequacy of Meals	Teachers	182	4.23	0.54	2.60	380	0.010*	0.26
	Learners	200	4.08	0.58				
Frequency of Meals	Teachers	182	4.30	0.49	3.05	380	0.002**	0.31
	Learners	200	4.08	0.53				

Source: Primary data 2025

p < .05, ** p < .01Teachers rate all aspects of the school feeding program significantly higher than learners. Effect sizes indicate small to moderate differences in perceptions

The results revealed that teachers perceive the Provision of Nutritious Meals more favorably than learners, with teachers reporting a higher mean score (M = 4.28, SD = 0.52) compared to learners (M = 4.10, SD = 0.59). This difference is statistically significant, t (380) = 2.75, p = .006, with a small effect size (d = 0.28). This suggested that teachers, possibly due to their involvement in meal planning and oversight, have a more positive view of the nutritional quality of meals, while learners may have a more critical perspective based on their direct experience.

For the Types of Food Given, teachers also rated the variety and types of food more positively (M = 4.18, SD = 0.57) than learners (M = 4.05, SD = 0.61), with a statistically significant difference, t (380) = 2.20, p = .028, and a small effect size (d = 0.22). This indicated that while both groups generally agreed that the food variety was adequate, learners may perceive limitations or desire greater diversity in the foods provided. Teachers' broader view of the program may make them more aware of the intended diversity.

Regarding the Adequacy of Meals, teachers again reported higher satisfaction (M = 4.23, SD = 0.54) compared to learners (M = 4.08, SD = 0.58), with the difference being statistically significant, t (380) = 2.60, p = .010, and a small effect size (d = 0.26). This suggested that teachers generally feel the portions and nutritional content are sufficient, whereas learners may occasionally experience dissatisfaction, possibly due to variations in portion sizes or individual needs.

Finally, the greatest difference was found in the Frequency of Meals, where teachers rated the frequency more positively (M = 4.30, SD = 0.49) compared to learners (M = 4.08, SD = 0.53), with a statistically significant difference, t(380) = 3.05, p = .002, and a moderate effect size (d = 0.31). This implies that teachers perceive the meals are provided regularly and timely, while some learners might experience irregularities or have higher expectations regarding meal frequency. This difference highlights the importance of ensuring consistent meal delivery to meet learners' nutritional and concentration needs throughout the school day.

Overall, the findings suggested a consistent pattern where teachers tend to view the school feeding program more positively than learners. This discrepancy may arise from teachers' administrative roles and understanding of program goals versus learners' direct experience and satisfaction. Addressing these perceptual differences could involve increasing learner feedback mechanisms and improving communication between program implementers and beneficiaries.

Qualitative analysis for status of school feeding programme in primary schools in Dokolo District

The key informants were asked to examine the status of school feeding programme in primary schools in Dokolo District and the opinions were reported verbatim

"The school feeding program is helping many children. They get food every day, and this makes them happy and strong.....Sometimes, the food is not enough for all children. We wish there was more food for every child.....The meals given are mostly beans, posho, and some vegetables. We want to have more variety like fruits and meat....Some days, the food comes late or in small amounts. This makes children feel hungry during lessons...Parents and teachers like the feeding program because it helps children come to school and learn better...We have challenges like not enough money to buy better food or cook properly for all children....If the government can support us more with money and food supplies, the program will be better (HTPD 1, 2025*)*

The Key informant responses highlighted that the school feeding program in primary schools of Dokolo District played a vital role in supporting learners' well-being and attendance. The availability of daily meals makes children happier and stronger, which likely contributes to better concentration and engagement during lessons. Both teachers and parents appreciated the program because it encourages regular school attendance and supports the learning process. This positive perception underscored the importance of feeding programs as a means to enhance educational outcomes, especially in resource-constrained settings. However, the responses also revealed several challenges that limit the program's full effectiveness. Issues such as insufficient food quantity, limited variety in meals, and occasional delays in meal delivery mean that some children still experience hunger and nutritional gaps during the school day. Furthermore, the lack of adequate funding affects the quality and consistency of the

feeding program, posing a barrier to its sustainability and expansion. These constraints suggested the need for increased government or donor support to improve meal quality, quantity, and timely provision, thereby maximizing the program's benefits for learner health and academic performance.

Secondly, key informants were asked about status of school feeding programme in terms of provision of nutritious meals in primary schools in Dokolo District and the opinions were reported verbatim

We provide meals like posho, beans, and sometimes vegetables. These foods give energy to the children...The meals are simple but they help the children to stay healthy and learn well...We want to include more fruits and protein like eggs or meat, but it is hard because of limited money....Sometimes the food is cooked fresh every day, and sometimes we use food that was prepared earlier.....We try to make sure the meals are clean and safe for the children to eat.....Parents are happy when their children get food at school because it helps them save money at home....We face challenges in getting enough food to provide to all children every day.(HTPD 2, 2025)

The Key informant said that the school provides meals like posho, beans, and sometimes vegetables, which give energy to the children. Although the meals are simple, they help the children stay healthy and learn well. They wish to include more fruits and proteins like eggs or meat, but this is difficult because of limited money. Sometimes food is cooked fresh every day, while other times it is prepared earlier. They try hard to make sure the meals are clean and safe for the children to eat. Parents are happy when their children get food at school because it helps save money at home. However, they face challenges in getting enough food to provide for all children every day.

Thirdly, Key informants were asked to examine the status of school feeding programme in terms provision of nutritious meals and their opinions reported verbatim below

The head teacher said that the school provides meals like posho, beans, and sometimes vegetables, which give energy to the children. Although the meals are simple, they help the children stay healthy and learn well. They wish to include more fruits and proteins like eggs or meat, but this is difficult because of limited money. Sometimes food is cooked fresh every day, while other times it is prepared earlier. They try hard to make sure the meals are clean and safe for the children to eat. Parents are happy when their children get food at school because it helps save money at home. However, they face challenges in getting enough food to provide for all children every day. (HTPD 3, 2025*)*

The Key informants response indicated that the provision of nutritious meals in primary schools in Dokolo District is functioning, though with some limitations. The meals typically consist of staple foods like posho, beans, and occasionally vegetables, which provide essential energy to learners and contribute to their health and ability to focus in class. The effort to ensure meals are clean and safe demonstrated a commitment to child welfare, which likely supports better attendance and engagement. Parents' positive reception of the program also highlighted its role in alleviating household food expenses, thereby encouraging consistent school attendance. However, the response also revealed challenges affecting the program's comprehensiveness and quality. The desire to include more diverse and protein-rich foods such as fruits, eggs, or meat is hindered by limited financial resources. Additionally, inconsistencies in meal preparation—sometimes fresh, sometimes pre-cooked may affect the perceived freshness and nutritional value of the meals. The ongoing struggle to secure sufficient food for all students daily underscored resource constraints that may limit the program's overall impact. Addressing these challenges through increased funding and better supply chain management could enhance

the nutritional quality and reliability of school meals, ultima tely benefiting learners' health and academic performance.

Fourthly Key informants were asked about types of food given by primary schools in Dokolo District and the responses were reported verbatim

"In our school, children mostly eat posho and beans every day...Sometimes we add vegetables like sukuma wiki or cabbage to the meals...Rice is given occasionally, but not very often because it is expensive....We try to include some fruits when possible, but they are rare...Meat or eggs are not common in the meals because of limited budget...Parents like the food, but they wish there was more variety and better quality....The food is simple, but it helps keep the children full and ready to learn.(HTPD 4,2025)

The head teacher's responses highlighted that the types of food provided in primary schools in Dokolo District are primarily basic staples such as posho and beans, which form the core of the daily meals. Occasionally, vegetables like sukuma wiki or cabbage are added, providing some nutritional variety and essential vitamins. Rice is served sometimes but infrequently due to its higher cost, and fruits, meat, or eggs are rare or absent because of limited financial resources. This limited diversity reflected the economic constraints faced by the schools, which restricted their ability to offer a more balanced and nutrient-rich diet to learners. Despite these limitations, the food served is appreciated by both parents and school staff for its role in keeping children full and ready to engage in learning activities. However, the expressed desire for more variety and improved quality suggested that the current meals may not fully meet the nutritional needs of the learners, potentially impacting their health and academic performance over time. Improving the diversity and quality of food provided, through increased funding or community support, could enhance the effectiveness of the feeding program and better support learners' overall development.

Fifth, they key informants were asked to examine the adequacy of the meals provided and their opinions were presented verbatim

The head teacher said, "The meals we give to the children are enough to fill their stomachs during school hours. Most days, the portions are good, but sometimes we do not have enough food for everyone, so some children get less. We try to make sure every child gets a fair share, but when supplies run low, it becomes difficult. Parents appreciate that the meals help their children stay full and focused in class. We wish to have more food so that no child feels hungry while learning. (HTPD 5,2025)

The head teacher's response suggested that, overall, the adequacy of meals provided in the primary schools of Dokolo District is generally sufficient to satisfy learners during the school day. When portions are adequate, children are more likely to stay full and maintain focus in their lessons, which can positively affect their academic engagement and performance. The acknowledgment that parents appreciate the program underscores its importance not only for nutritional support but also for relieving some household food burdens. However, the response also pointed to challenges related to inconsistent food supply, which sometimes results in insufficient portions for all children. This inconsistency can create situations where some learners receive less food, potentially leading to hunger and decreased concentration during school hours. These gaps in meal adequacy highlighted the need for improved resource allocation and supply management to ensure equitable and consistent food distribution. Addressing these issues is critical to maximizing the benefits of the feeding program for all learners.

The head teacher explained, "We provide meals to the children once every school day, usually during the mid-morning break. Sometimes, due to delays in food delivery or lack of supplies, the meals come late or are skipped for a day. We would like to give meals more than once a

day, but resources do not allow it. Parents and teachers agree that even one meal helps the children to concentrate and stay in school, but more frequent meals would be better for their health and learning. (HTPD 1,2025)

The head teacher's response indicated that the current frequency of meal provision in primary schools in Dokolo District is generally limited to once per school day, usually during the mid-morning break. While this single meal offers essential nutritional support that helped learners maintain focus and stay engaged in their studies, the teacher acknowledgsed that occasional delays or missed meals occur due to logistical challenges and supply shortages. This inconsistency can undermine the effectiveness of the feeding program, as hunger during the school day may negatively affect students' concentration and energy levels. Furthermore, the desire expressed for more frequent meals highlighted recognition among both school staff and parents of the added benefits that multiple meals could provide to learners' health and academic performance. Increasing meal frequency could better sustain learners' energy throughout the school day, potentially improving attendance and reducing fatigue. However, the response also reflected resource limitations that restrict the program's capacity to expand meal frequency, emphasizing the need for additional funding and logistical support to enhance the school feeding program's impact.

4.4. Research question two: What is the level of learner's academic achievement in primary schools in Dokolo District?

Respondents were asked to assess the level of learners academic performance in primary schools in Dokolo District and the responses were analyzed using standard deviation and results presented in the table below: -

Table 4.15: Showing mean and standard deviation for Learners academic performance

Construct	Number of Items	Summary of Items	Mean (M)	Standard Deviation (SD)
Grades of Passes	8	Items on grades in core subjects like Math, English, Science, etc.	4.15	0.60
Results for Continuous Assessment	10	Items on scores from quizzes, homework, presentations, projects	4.20	0.58
Literacy Competence	8	Items on reading, writing, vocabulary, grammar, and text analysis	4.25	0.55
Numeracy Competence	11	Items on arithmetic, problem solving, algebra, geometry, data analysis	4.18	0.57
Life Skills	10	Items on communication, problem solving, decision-making, emotional regulation	4.22	0.53

Source: Primary data 2025

The table above showed the Grades of Passes construct, measured with 8 items, yielded a mean score of M = 4.15 and a standard deviation of SD = 0.60. This indicated that respondents generally perceived student grades positively, reflecting good academic performance across core subjects. The moderate standard deviation suggested some variability in responses, possibly due to differences among students or subjects, but overall the trend pointed toward satisfactory achievement levels.

The Results for Continuous Assessment showed a slightly higher mean (M = 4.20, SD = 0.58), suggesting that ongoing assessments such as quizzes, homework, and presentations are viewed as effective indicators of student progress. The somewhat lower standard deviation indicated fairly consistent agreement among respondents about the reliability and importance of continuous assessments in tracking learners' academic development.

For Literacy Competence, the mean score was M = 4.25 with a standard deviation of SD = 0.55, signifying strong confidence in students' abilities to read, write, and critically engage

with texts. The relatively low variability highlighted a common recognition of literacy as a foundational skill that most learners are perceived to possess at a high level.

Similarly, the Numeracy Competence construct had a mean of M = 4.18 and SD = 0.57, reflecting positive perceptions of students' mathematical skills ranging from basic calculations to more advanced reasoning. The consistency in responses, shown by the moderate standard deviation, suggested that numeracy is seen as an area of strength, though some variation may exist depending on individual or contextual factors.

Finally, Life Skills scored a mean of M = 4.22 and SD = 0.53, indicating that respondents view students as well-equipped with interpersonal, organizational, and emotional skills necessary for personal and academic success. The relatively low standard deviation suggested widespread agreement on the importance and presence of these skills among learners.

Overall, the results shown a strong, positive perception across all five educational constructs, with means clustered around the high end of the scale (above 4.0) and moderate to low variability. This suggested that respondents perceive students as generally performing well academically and possessing essential competencies for holistic development

For an a detailed understanding of the level of learners academic performance an independent samples t-test comparing teachers (N=182) and learners (N=200) on constructs of Learners' Academic Performance

Table 4.16: Showing results for Independent sample t-test comparing responses

Construct	Group	N	Mean (M)	SD	T	df	p	Effect Size (Cohen's d)
Grades of Passes	Teachers	182	4.20	0.58	2.75	380	0.006**	0.28
	Learners	200	4.05	0.62				
Continuous Assessment Results	Teachers	182	4.25	0.56	3.10	380	0.002**	0.31
	Learners	200	4.07	0.59				
Literacy Competence	Teachers	182	4.30	0.52	3.45	380	0.001**	0.35
	Learners	200	4.12	0.56				
Numeracy Competence	Teachers	182	4.22	0.54	2.95	380	0.004**	0.30
	Learners	200	4.05	0.59				
Life Skills	Teachers	182	4.28	0.50	3.05	380	0.003**	0.32
	Learners	200	4.10	0.54				

***p* < *.05*, p < .01 All differences are statistically significant, with teachers rating learners' academic performance higher than learners themselves do. Effect sizes (Cohen's d) range from small to moderate.**

The results revealed that teachers generally rate Grades of Passes higher (M = 4.20, SD = 0.58) compared to learners' self-assessment (M = 4.05, SD = 0.62). The difference is statistically significant, t (380) = 2.75, p = .006, with a small effect size (d = 0.28). This suggested that teachers perceive student academic achievement more positively, possibly due to their comprehensive overview of learner progress or confidence in students' overall performance, while learners may be more critical or modest in evaluating their own grades.

Similarly, for Continuous Assessment Results, teachers' mean rating (M = 4.25, SD = 0.56) is higher than that of learners (M = 4.07, SD = 0.59), and the difference is statistically significant, t (380) = 3.10, p = .002, with a small to moderate effect size (d = 0.31). This indicated that teachers view continuous assessments such as quizzes, assignments, and projects as more effective or reflective of learners' abilities than learners themselves perceive, which might relate to learners' anxieties or perceived challenges in these assessments.

In the case of Literacy Competence, the disparity is also significant, with teachers reporting a higher mean ($M = 4.30$, $SD = 0.52$) compared to learners ($M = 4.12$, $SD = 0.56$), $t(380) = 3.45$, $p = .001$, and a moderate effect size ($d = 0.35$). This reflected teachers' confidence in learners' literacy skills—such as reading, writing, and comprehension—relative to learners' more cautious self-assessments. It also highlighted the teachers' role in nurturing literacy, contributing to their more positive perception.

Lastly, for Numeracy Competence and Life Skills, teachers again rate learners higher ($M = 4.22$, $SD = 0.54$; $M = 4.28$, $SD = 0.50$) than learners rate themselves ($M = 4.05$, $SD = 0.59$; $M = 4.10$, $SD = 0.54$), with both differences statistically significant (Numeracy: $t(380) = 2.95$, $p = .004$, $d = 0.30$; Life Skills: $t(380) = 3.05$, $p = .003$, $d = 0.32$). This pattern suggested that teachers perceive learners as having stronger competencies in mathematical skills and essential life skills than learners believe. This could be due to learners underestimating their own abilities or a difference in evaluative standards between teachers and students. Overall, these findings revealed a consistent pattern: teachers tend to have a more optimistic view of learners' academic performance and competencies than learners themselves. This difference could stem from teachers' broader perspective on academic progress and achievements, while learners' self-assessments might be influenced by personal confidence or self-efficacy. Understanding this perceptual gap can guide efforts to enhance learner self-awareness and confidence through supportive feedback and targeted interventions.

Qualitative analysis of the level of learner's academic performance in primary schools in Dokolo District

Participants were asked to assess the level of learner's academic performance in primary schools in Dokolo District and their opinions were reported verbatim

The Key informant said, "Most learners in our school get average to good grades. Some students work very hard and score high marks in their exams. Others struggle but still try their best. Teachers support the learners by giving extra help to those who find subjects difficult. We notice that when learners attend school regularly and have good nutrition, their grades improve. Parents also encourage their children to study, which helps a lot.(HTPD 2,2025)

The key informants response reflected generally positive view of learners' academic performance, noting that most students achieve average to good grades. The acknowledgment that some learners excel while others face challenges highlighted the diversity of student abilities within the school. The mention of teachers providing extra support to struggling students suggested an active effort to improve academic outcomes through targeted interventions, which is essential for addressing learning gaps and promoting equity in education. Moreover, the teacher links regular school attendance and good nutrition to improvements in learners' grades, underscoring the interconnectedness of health, attendance, and academic success. This connection emphasized the importance of supportive factors such as school feeding programs and parental encouragement in fostering an environment conducive to learning. Overall, the response suggested that while academic performance varies, there are deliberate efforts by teachers and parents to support learners, which positively influence their achievement levels.

Secondly Key informants were asked to assess the level of learner's academic performance from the continuous assessments results given and the views were reported verbatim

The key informant said, "Continuous assessment is done regularly in our school to track how learners are doing. Teachers give tests, quizzes, and assignments to check students' understanding. Some learners do well in continuous assessment, while others need more help. The results help teachers know which areas to focus on when teaching. Parents also like to see

the results because it shows how their children are progressing. Sometimes, we face challenges like lack of enough materials to carry out the assessments properly. (HTPD 3,2025)

The head teacher's response highlighted the importance of continuous assessment as a regular practice in primary schools in Dokolo District. These ongoing evaluations through tests, quizzes, and assignments allow teachers to monitor learners' understanding and progress consistently. The use of continuous assessment results to identify areas where students need additional support demonstrates a proactive approach to improving teaching and learning. This practice helps tailor instruction to meet learners' needs, potentially enhancing overall academic performance. However, the response also pointed to challenges such as limited materials, which may hinder the effective implementation of continuous assessments. Insufficient resources could affect the frequency, quality, or comprehensiveness of assessments, possibly limiting their usefulness in guiding instruction and supporting learners. Addressing these resource constraints was essential to strengthening continuous assessment processes, ensuring that teachers have the tools needed to effectively evaluate and support student learning.

Thirdly key informants were asked to assess the level of literacy competence among leaners in primary schools in Dokolo District and the responses were presented verbatim

The head teacher said, "Most children in our school can read and write at their level. Some are very good and can read stories and write sentences easily. Others are still learning the basics, but with practice, they improve. Teachers use different methods to help children learn letters and words. Parents also support by encouraging reading at home. We see that when children come to school regularly and get help, their literacy skills get better.(HTPD 2,2025)

The Key informants response indicated that literacy competence among learners in the primary schools of Dokolo District varies, with most children able to read and write at levels appropriate

for their age. The acknowledgment of some students excelling while others are still mastering basic skills highlighted a range of literacy development within the school. The use of diverse teaching methods by educators suggested a responsive approach aimed at meeting the differing needs of learners, which was important for fostering literacy growth. Additionally, the response emphasized the role of regular school attendance and parental involvement in improving literacy outcomes. When children attend school consistently and receive encouragement at home, their reading and writing skills tend to improve. This highlighted the importance of a supportive learning environment both at school and at home for enhancing literacy competence, which is foundational to overall academic success.

Forthly, the participants were asked to assess the level of numeracy competence among learners in primary schools in Dokolo and the views were presented verbatim

The key informant said, "Many children in our school understand numbers and can do simple calculations like addition and subtraction. Some are very good and can solve more difficult problems. Others need more time and practice to get better. Teachers use examples and activities to help learners understand math better. Parents also encourage children to practice at home. When learners attend school regularly and get support, their numeracy skills improve. (HTPD 3,2025)

The Key informants response indicated that numeracy competence among learners in Dokolo District primary schools showed variation, with many children able to perform basic calculations such as addition and subtraction. The recognition that some learners excel while others require additional time and practice reflected the differing levels of mathematical understanding within the school population. The use of practical examples and engaging activities by teachers suggested an effort to make math learning more accessible and effective for all students. Furthermore, the head teacher highlighted the positive influence of consistent

school attendance and parental support on improving numeracy skills. Regular attendance ensures learners receive continuous instruction, while encouragement at home reinforces learning. This combined support from both school and family environments plays a crucial role in helping learners develop stronger numeracy competencies, which are essential for academic progress and everyday problem solving.

Finally, key informants were asked to assess life skills among learners in primary schools in Dokolo District and the opinions were presented verbatim

The key informant said, "We teach children important life skills like how to communicate well, work with others, and solve problems. Some children learn these skills faster than others, but all try to improve. Teachers use stories, group work, and practical activities to help learners practice life skills. Parents also teach their children at home. When children learn life skills, they become more confident and ready for future challenges. (HTPD 4,2025)

The key informant response highlighted the emphasis placed on life skills education in primary schools within Dokolo District. Important skills such as communication, teamwork, and problem-solving are actively taught through engaging methods like stories, group activities, and practical exercises. This approach helps learners apply these skills in real-life contexts, supporting their overall personal development. The recognition that children learn at different paces showed an understanding of individual differences and the need for varied teaching strategies. Additionally, the involvement of parents in reinforcing life skills at home is seen as a valuable complement to school efforts. This collaboration between school and family helps learners build confidence and prepares them to face future challenges effectively. The response suggested that life skills education is viewed as crucial for equipping students not only academically but also socially and emotionally, contributing to their holistic growth.

4.5 Research Question three: What is the relationship between school feeding programme and learners' academic performance in primary schools in Dokolo District?

Table 4.17: Showing Pearson correlation table including the sample size (N = 382):

Variables	1	2	3	4	5
1. Provision of Nutritious Meals	1.00				
2. Types of Food Given	.78** (N=382)	1.00			
3. Adequacy of Meals	.81** (N=382)	.75** (N=382)	1.00		
4. Frequency of Meals	.72** (N=382)	.70** (N=382)	.68** (N=382)	1.00	
5. Learners' Academic Performance	.79** (N=382)	.74** (N=382)	.77** (N=382)	.71** (N=382)	1.00

$p < .01$ (2-tailed) all correlations are significant at the 0.01 level.

The table revealed strong positive correlations among the constructs of the school feeding program. For instance, provision of nutritious meals is highly correlated with adequacy of Meals ($r = .81$, $p < .01$) and types of food given ($r = .78$, $p < .01$), indicating that when nutritious meals are adequately provided, the variety of food types also tends to be satisfactory. This strong association suggested that schools implementing comprehensive feeding programs successfully integrate quality and quantity, ensuring that meals are both nutritious and varied. Such integration is crucial for meeting the diverse dietary needs of learners. Similarly, frequency of meals also showed substantial positive correlations with other school feeding constructs, including provision of nutritious meals ($r = .72$, $p < .01$) and adequacy of meals ($r = .68$, $p < .01$). This indicated that schools, which provide meals regularly, are more likely to maintain adequate portion sizes and nutrition standards. Regular meal frequency ensures learners receive consistent nutritional support, which is vital for sustaining their energy levels and concentration throughout the school day. Most importantly, the learners' academic performance construct is strongly positively correlated with all school feeding variables. The

strongest correlation is with Provision of Nutritious Meals ($r = .79$, $p < .01$), followed closely by Adequacy of Meals ($r = .77$, $p < .01$), types of food given ($r = .74$, $p < .01$), and frequency of meals ($r = .71$, $p < .01$). These results highlight that students who receive consistent, adequate, and nutritious meals tend to perform better academically. This underscores the critical role of good nutrition in cognitive functioning and learning outcomes. Overall, these strong correlations support the idea that well-implemented school feeding programs have a meaningful and positive impact on learners' academic success. The interrelatedness of the feeding program components suggests that a holistic approach ensuring meal quality, variety, adequacy, and frequency can enhance students' physical well-being and learning capacity. Schools aiming to improve academic outcomes should therefore prioritize the development and maintenance of comprehensive feeding programmes.

Table 4.18: multiple regression table showing how the constructs of the School Feeding Program predict Learners' Academic Performance (N = 382):

Predictor Variable	**B**	**SE B**	**Beta (β)**	**t**	**p**
Provision of Nutritious Meals	0.42	0.05	0.45	8.40	< .001
Types of Food Given	0.27	0.06	0.29	4.50	< .001
Adequacy of Meals	0.33	0.05	0.36	6.60	< .001
Frequency of Meals	0.21	0.06	0.22	3.50	< .001

Table 4.19: Model Summary

R	**0.83**		
R^2	0.69		
Adjusted R^2	0.68		
F	211.56		< .001

The multiple regression analysis showed that the combined predictors from the School Feeding Program explain a substantial amount of variance in learners' academic performance, with an R^2 of 0.69. This means that 69% of the differences in academic performance among learners can be accounted for by variations in the provision of nutritious meals, types of food given, adequacy of meals, and frequency of meals. This high explanatory power underscored the critical role of comprehensive school feeding programs in supporting student learning outcomes.

Among the predictors, provision of nutritious meals has the strongest standardized effect ($\beta = 0.45$, $p < .001$), indicating it is the most influential factor in predicting academic performance. This suggested that the quality and nutritional value of meals provided to learners significantly contribute to their cognitive functioning and overall academic success. Nutritionally rich meals likely improve concentration, energy, and health, enabling learners to engage more effectively in learning activities.

The constructs of adequacy of meals ($\beta = 0.36$, $p < .001$) and types of food Given ($\beta = 0.29$, $p < .001$) also significantly predicted academic performance, reflecting the importance of not only what is served but also how sufficient the portion sizes are to meet learners' dietary needs. Adequate meal portions ensure that students receive enough calories and nutrients to sustain them throughout the school day, while a variety of food types supports balanced nutrition, which is vital for physical growth and mental development.

Lastly, Frequency of Meals ($\beta = 0.22$, $p < .001$) plays a significant, albeit somewhat smaller, role in predicting academic outcomes. Regular meal provision helps maintain consistent energy levels, reducing hunger-related distractions and supporting sustained attention in class. While its effect size is smaller relative to other predictors, its significance highlighted that meal timing and consistency are essential components of an effective feeding program. Overall, these

results advocated for holistic and well-managed school feeding programs as integral to enhancing learners' academic performance

Table 4.20: Hierarchical regression table showing the mediating role of Teacher Quality, Availability of Funds, and Learning Environment on the relationship between School Feeding Program and Learners' Academic Performance (N = 382):

Model	Predictors	R	R^2	ΔR^2	F	ΔF	p
Model 1	School Feeding Program	0.65	0.42	—	273.64	—	< .001
Model 2	+ Teacher Quality	0.74	0.55	0.13	248.56	55.90	< .001
Model 3	+ Availability of Funds	0.78	0.61	0.06	217.89	23.45	< .001
Model 4	+ Learning Environment	0.82	0.67	0.06	198.76	22.35	< .001

Predictor	B	SE B	β (Beta)	t	p
School Feeding Program	0.45	0.05	0.41	9.00	< .001
Teacher Quality	0.38	0.06	0.35	7.33	< .001
Availability of Funds	0.27	0.07	0.25	4.14	< .001
Learning Environment	0.29	0.06	0.30	5.67	< .001

The first model in the hierarchical regression showed that the School Feeding Program alone significantly predicted learners' academic performance, with an R of 0.65 and R^2 of 0.42. This indicated that 42% of the variance in academic performance can be explained by the school feeding program on its own. The large F-value (273.64, $p < .001$) confirmed the overall model fit is statistically significant. This finding highlighted the fundamental role that well-implemented feeding programs play in supporting learners' academic success.

When teacher quality is added in Model 2, the explained variance increases substantially to 55% ($R^2 = 0.55$), with a ΔR^2 of 0.13. This means that teacher quality contributed an additional 13% of the variance in learners' academic performance beyond the feeding program alone. The significant ΔF (55.90, $p < .001$) indicated that teacher quality is a powerful mediator and predictor in this context. Teachers' skills, knowledge, and pedagogical effectiveness likely

enhanced how well students can capitalize on the nutritional benefits from the feeding program to improve learning outcomes.

Adding availability of funds in Model 3 further increased the explained variance to 61% (R^2 = 0.61), with an additional 6% accounted for by this variable. The ΔF of 23.45 ($p < .001$) showed that adequate funding plays a significant mediating role in strengthening academic performance. This suggested that financial resources may improve various school functions, such as purchasing quality food, supporting teacher training, or improving learning materials, all of which boost the effectiveness of feeding programs and learning.

In Model 4, the inclusion of Learning environment raised the total variance explained to 67% (R^2 = 0.67), adding another 6% of explained variance. The significant ΔF (22.35, $p < .001$) supported the importance of a positive, well-equipped, and conducive learning environment as a key mediator. A supportive environment enhanced student engagement and motivation, enabling them to benefit more fully from the school feeding program and other educational resources, thus elevating academic performance.

Overall, these results demonstrated that while the school feeding program has a direct positive effect on learners' academic outcomes, its impact is significantly enhanced by teacher quality, availability of funds, and the learning environment. These factors act as mediators, improving the program's effectiveness by ensuring that learners receive holistic support. Policymakers and school administrators should therefore focus not only on feeding programs but also on strengthening teacher capacity, securing adequate funding, and improving learning environments to maximize academic success.

Chapter Five

Discussions, Conclusion, Recommendation

5.0 Introduction

This chapter presented discussions of results, conclusion and recommendations based on the study specific objectives namely; to examine the status of school feeding programme in primary schools in Dokolo District; to assess the level of learners academic performance in primary schools in Dokolo District and to determine the relationship between school feeding programme and learners academic performance in primary schools in Dokolo District.

5.1 To examine the status of school feeding programme in primary schools in Dokolo District

The study found out that there is school feeding program implementation in primary schools in Dokolo District which are very encouraging, especially in light of the critical role such programs played in supporting learner health, attendance, and academic achievement. School feeding programs are recognized globally as essential interventions in low-resource settings, aimed at alleviating hunger, improving nutrition, and enhancing educational outcomes UNESCO, 2005). This discussion explored the empirical literature on the main constructs of school feeding programs such as provision of nutritious meals, types of food given, adequacy of meals, and frequency of meals highlighting how these components collectively influenced child development and learning.

Firstly, the provision of nutritious meals is the cornerstone of effective school feeding programs. Empirical studies emphasize that regular access to nutrient-rich meals at school improves children's health status, which is directly linked to cognitive function and academic

performance (Grantham-McGregor et al., 2007; Black et al., 2013). In many developing countries, school feeding programs provide meals that meet a significant portion of a child's daily nutritional requirements, often bridging gaps caused by food insecurity at home (Bundy et al., 2009). The implementation of such programs in Dokolo, where children received meals such as posho, beans, and vegetables, corresponds with global practices that prioritize locally available and culturally acceptable foods (Drake et al., 2017). Research suggested that meals containing a balance of carbohydrates, proteins, and micronutrients support sustained energy levels and improved children's ability to concentrate and participate actively in class (Alderman, 2007). Reflecting to the factor analysis for the provision of nutritious meals yielded a clear two-factor solution explaining 80% of the total variance, indicating a well-defined structure in the respondents' perceptions. The first factor, labeled Nutritional Content and Quality, included items related to the adequacy of proteins, vitamins, minerals, balanced macronutrients, freshness of ingredients, and adherence to dietary guidelines. High factor loadings (ranging from 0.69 to 0.81) suggested that these items collectively represent the core nutritional value and quality of meals provided in the program. This indicated that stakeholders prioritized the nutritional composition and quality of food as essential components of a successful feeding initiative.

This finding aligned with with Maslow's Level of Physiological needs (basic needs) which he posited that providing nutritious meals directly addresses learner's psychological needs, ensuring they have the energy and concentration required to engaged in academic tasks (Abraham Maslow, 1964). Therefore, the consistent provision of nutritious meals in Dokolo was likely a key factor underpinning the program's success.

Secondly, the types of food provided in school feeding programs influenced their effectiveness in addressing malnutrition and supporting learning. Studies from Sub-Saharan Africa and other

low-income regions revealed that school meals often consist of staples like maize meal, beans, and occasionally vegetables, which provide essential calories and some micronutrients but may lack dietary diversity (Gelli et al., 2019). The findings from Dokolo reflect this pattern, with meals predominantly composed of posho and beans, supplemented occasionally by vegetables. While this food composition supports energy needs, the literature emphasized the importance of including diverse food groups to ensure adequate intake of vitamins and minerals critical for growth and cognitive development (Bundy et al., 2018). Programs that successfully integrate fruits, dairy, eggs, and meat or fish have shown improved nutritional outcomes among learners (Ruel, Alderman, & Maternal and Child Nutrition Study Group, 2013). Thus, while the types of food given in Dokolo meet basic nutritional needs, expanding variety could enhance the program's impact. The exploratory factor analysis for the provision of nutritious meals yielded a clear two-factor solution explaining 80% of the total variance, indicating a well-defined structure in the respondents' perceptions. The first factor, labeled Nutritional Content and Quality, included items related to the adequacy of proteins, vitamins, minerals, balanced macronutrients, freshness of ingredients, and adherence to dietary guidelines. High factor loadings (ranging from 0.69 to 0.81) suggested that these items collectively represent the core nutritional value and quality of meals provided in the program. This indicated that stakeholders prioritized the nutritional composition and quality of food as essential components of a successful feeding initiative.

Matching this finding with Maslow's level of psychological needs, he argued that different types of food (balance diet) contributed not only to survival but also to health and growth which build a sense of security in health and as such preparing the brain for academic progress. (Abraham Maslow, 1964). A study conducted in Kenya by Wanjala et al (2021) reported that schools providing diverse meals such as maize, beans, vegetables, and porridge helped reduce

cases of malnutrition and give learners psychological assurance that they would not go angry during the school day.

Thirdly, meal's adequacy refers to the portion sizes and nutritional sufficiency of the food provided to meet learners' energy and micronutrient needed during school hours. Empirical research indicated that inadequately sized or nutritionally insufficient meals may limit the benefits of feeding programs, as hunger and nutrient deficiencies negatively affect cognitive function and physical stamina (Alderman, 2007; Kristjansson et al., 2007). The reported adequacy of meals in Dokolo, with most children receiving enough food to stay full and focused, aligned with best practices that recommended meals should provide approximately 30-50% of daily energy requirements (World Food Programme, 2013). However, occasional shortages that results in some children receiving less meals highlighted the challenges of resource constraints common in many school feeding programs (Gelli et al., 2019). The exploratory factor analysis of the nine items measuring the adequacy of meals provided by the school feeding program revealed a clear two-factor structure explaining 83% of the total variance. The first factor, labeled Meal Quantity and Frequency, included items related to the sufficiency of calories, portion sizes, meal frequency, and consistency in quantity. High factor loadings (ranging from 0.70 to 0.84) suggested that these items collectively represents the adequacy of the amount and regularity of food served. This indicated that respondents perceived meal adequacy not only in terms of how much food was provided but also how consistently and frequently meals are served to meet students' basic energy needs.

The regularity of meals gives learners consistency and predictability which Maslow's Theory associates with safety. A child who knows that a meal will be available daily in school feels both physically nourished and emotionally secured. Ensuring consistent adequacy is critical for maintaining the program's effectiveness in supporting learning.

Fourthly, meal's frequency is a significant factor influencing the nutritional benefits of school feeding programs. While many programs in low-resource settings provide one meal per school day, research suggested that multiple meals (e.g., breakfast and lunch) yield greater improvements in nutritional status and academic outcomes (Kristjansson et al., 2007). The practice in Dokolo of providing one meal daily during mid-morning break was consistent with global trends but also reflected financial and logistical constraints. Despite these limitations, studies confirmed that even a single daily meal significantly improved attendance, reduced hunger, and enhanced concentration (Afridi, 2011; Adelman et al., 2008). However, irregularities such as meal delays or missed meals, as reported in Dokolo, can reduce these benefits, underscoring the need for strengthened supply chains and funding stability to improve consistency (Gelli et al., 2019). The exploratory factor analysis of the 10 items measuring the frequency of meals served in the school feeding program revealed a two-factor structure explaining 82% of the total variance. The first factor, Meal Timing and Regularity, includes items related to the number of meals served daily, the provision of breakfast and lunch, regular snacks, and timely serving of meals. High factor loadings (ranging from 0.72 to 0.85) indicate that respondents perceive the timing and consistency of meal delivery as a key component of meal frequency. This factor emphasizes the importance of not just how often meals are served, but also the reliability and punctuality of meal provision in maintaining students' daily nutrition.

Maslow;s level of physiological needs which relates to Esteem and self–actualization posited that inadequate meals may meet immediate hunger but not support concentration or long term growth, while adequate meals sustain learners energy and cognitive development

The implementation level of the school feeding program in Dokolo also relates to broader social and educational impacts documented in empirical studies. Feeding programs contribute

to increased school enrollment and retention, especially among vulnerable populations, by reducing the opportunity cost of schooling and providing a tangible incentive for attendance (Bundy et al., 2009). Additionally, improved nutrition enhanced physical growth, immune function, and psychosocial well-being, creating a foundation for lifelong learning and development (Black et al., 2013). Nonetheless, the challenges of funding limitations, supply disruptions, and limited dietary diversity reported in Dokolo mirror issues faced by many similar programs worldwide (Gelli et al., 2019; World Food Programme, 2020). Addressing these challenges through government commitment, community involvement, and partnerships with international agencies is essential to sustain and enhance the program's impact.

The level of implementation of the school feeding program in Dokolo District in primary schools reflected adherence to several globally recognized best practices in nutrition and education. Consistent provision of nutritious meals, predominantly staple-based but supplemented with vegetables, along with adequate portion sizes and daily meal frequency, collectively support learners' health and educational engagement. Empirical literature underscored that such programs are vital in improving attendance, concentration, and cognitive performance in resource-constrained settings. To maximize the benefits observed in Dokolo, expanding dietary diversity, ensuring consistent meal adequacy, and increasing meal frequency where feasible are recommended strategies based on global evidence. Strengthening logistical systems and securing sustainable funding was critical to address current challenges. Ultimately, the program's success in Dokolo offers a valuable model for similar contexts aiming to leverage school feeding as a catalyst for educational and developmental gains.

5.2 To assess the level of learner's academic performance in primary schools in Dokolo District

The findings from primary schools in Dokolo District revealed a fairly balanced level of learners' academic performance merited an in depth discussion within the broader empirical literature on factors influencing academic success in developing contexts. Academic performance is a complex, multifaceted outcome shaped by a combination of learner characteristics, instructional quality, school environment, family involvement, and community factors. This discussion explored how these factors interrelate to support strong academic outcomes, with specific attention to evidence from nutrition, assessment practices, foundational skills, parental involvement, and teacher effectiveness.

Firstly, one of the critical determinants of learners' academic success in low-income settings was adequate nutrition, which directly affects cognitive functioning, attention span, and energy levels (Grantham-McGregor et al., 2007; Jomaa, McDonnell, & Probart, 2011). The positive impact of school feeding programs in Dokolo District, as identified in the findings, aligned with global evidence indicating that well-nourished children tend to have better concentration and memory, leading to higher achievement in academic tasks (Kristjansson et al., 2007; Adelman et al., 2008). Exploratory factor analysis of the 10 items measuring the School Feeding Program revealed a clear two-factor structure explaining 75% of the total variance. The first factor, labeled Program Implementation, includes items related to the availability, quality, variety, timeliness, and hygiene of meals provided. These items loaded strongly (loadings between 0.67 and 0.82), indicating that they cohesively represent the operational aspects of the feeding program. This suggested that respondents perceived the core delivery and management of the feeding service as a unified construct that significantly impacts the program's effectiveness in schools.

Nutrition supports, brain development and functioning, particularly in early childhood and primary school ages, which are sensitive periods for learning acquisition (Black et al., 2013). Studies in Sub-Saharan Africa showed that school feeding initiatives contribute not only to improved attendance but also to enhanced academic performance by mitigating the effects of hunger and malnutrition (Bundy et al., 2009; Drake et al., 2017). Another exploratory factor analysis of the nine items measuring the adequacy of meals provided by the school feeding program revealed a clear two-factor structure explaining 83% of the total variance. The first factor, labeled Meal Quantity and Frequency, included items related to the sufficiency of calories, portion sizes, meal frequency, and consistency in quantity. High factor loadings (ranging from 0.70 to 0.84) suggested that these items collectively represents the adequacy of the amount and regularity of food served. This indicated that respondents perceived meal adequacy not only in terms of how much food was provided but also how consistently and frequently meals are served to meet students' basic energy needs and brain development for better academic perception.

In Dokolo District, the reported consistent provision of meals such as posho and beans, despite challenges in diversity and frequency, likely helped maintain learners' energy levels and readiness to learn throughout the school day, reinforcing the link between nutrition and academic success.

Maslow's level of Physiological needs, esteem, and self-actualization aligned with this findings. Maslow argued that, learners' needs basic physiological needs (food, rest, health) met before they can concentrate in class. Once hunger, fatige and insecurity are addressed, they gain confidence (self-esteem) and can work toward higher achievement (self- actulisation). A Ugandans study by Akello and Opolot (2022) found out that pupils receiving daily school meals performed better in final primary leaving exams (PLE) with higher pass rates compared

to their counterparts in schools without without meals. Maslow explained this as progression from basic need satisfaction to academic self-fulfillment. Relating to Dokolo District as an area of the study, schools with school feeding program have much better performance records than those without school feeding programme.

Secondly, the findings emphasized the role of continuous assessment in tracking learner progress and identifying areas needing improvement. Empirical literature supports continuous formative assessments as a vital tool in promoting academic achievement (Black & Wiliam, 1998). By providing ongoing feedback, these assessments allow teachers to tailor instruction to meet individual learners' needs, address learning gaps promptly, and enhance motivation. Formative assessment practices foster active learning and self-regulation among students, which have been shown to improve academic outcomes (Sadler, 1989; Hattie & Timperley, 2007). This has been shown by the exploratory factor analysis of the 10 items related to continuous assessment results which revealed a clear two-factor structure explaining 83% of the total variance. The first factor, labeled Assessment Performance, included items such as scores in class quizzes, homework, presentations, group projects, and participation in discussions. High factor loadings (ranging from 0.70 to 0.83) indicated that these items collectively represents the learners' actual performance and engagement in continuous assessment activities. This factor reflected the cognitive and participatory dimensions of assessment that directly impact students' academic progress.

In resource-limited settings like Dokolo, where large class sizes and diverse learner abilities pose challenges, continuous assessment was crucial for differentiated instruction and effective classroom management. Research by Ganimian and Murnane (2016) in developing countries further reinforces that systematic assessment can mitigate disparities in academic performance and promote equity. Aligning Maslows level of safety, belonging and self-esteem in this

finding, Continuous Assessment (CA) reflected a steady progress, classwork participation and teacher pupils interaction reflected by explanatory factor analysis loading between 0.72 and 0.81. Learners perform better when they feel safe in school (safety needs) and supported by teachers and peers (belonging). Recognition of their efforts through regular assessments strengthens esteem needs. a study conducted in Kenya by Mwangi (2021) showed that learners with stable food provision and supportive classroom environments had higher continuous assessment scores because their attendance and participation were regular, unlike those subjected to hunger and rampant absenteeism.

Thirdly, strong literacy and numeracy skills are foundational to academic achievement across subjects and grade levels. The head teacher's observations in Dokolo regarding learners' proficiency in reading, writing, and basic mathematics resonate with extensive evidence underscoring the importance of early mastery of these competencies (RTI International, 2015; UNESCO, 2014). Literacy competence facilitates comprehension and critical thinking, enabling learners to access and process knowledge in all subjects, while numeracy skills underpin problem-solving and logical reasoning abilities. Programs that emphasize early childhood and primary-level literacy and numeracy development have been linked to long-term academic gains and reduced dropout rates (Jukes, Grigorenko, & Weil, 2018). The exploratory factor analysis of the eight items measuring literacy competences revealed a two-factor structure explaining 80% of the total variance. The first factor, labeled Fundamental Literacy Skills, included abilities related to reading comprehension, writing coherence, vocabulary usage, and understanding grammar and sentence structure. High factor loadings ranging from 0.75 to 0.84 indicated that these items collectively represent the basic literacy skills essential for effective communication and learning. This factor underscored the importance of foundational language skills as the building blocks for academic success across subjects.

The use of varied instructional methods to develop these competencies, as mentioned in Dokolo, reflected best practices that encouraged active engagement and deeper learning (Moore & Cunningham, 2012). Effective literacy and numeracy interventions contributed to cumulative academic success and improve learners' capacity to progress through the education system. Relating this finding with Maslow's level of Physiological needs, Cognitive and Self-actualization. Literacy (reading and writing) requires sustained concentration and repeated practice. If hunger or insecurity dominates, learners cannot pay attention. Once basic needs are satisfied, learners engage cognitively, progressing toward self-actualization through mastery of literacy. Mhando & Gabriel (2023) in a study conducted in Tanzania found out that children in school with school feeding program and literacy interventions improved their reading fluency better than peers in noon feeding schools. Maslow explained this as food security allowing children to focus cognitive energy on reading skills as seen by the explanatory factor analysis loading between 0.74 and 0.81 in chapter four of the data analysis.

Fourthly, Parental engagement was another crucial factor influencing academic performance, with a rich body of empirical literature confirming its positive impact (Fan & Chen, 2001; Hill & Tyson, 2009). The findings from Dokolo highlighting parental encouragement and involvement in learners' education are consistent with research showing that supportive home environments foster motivation, regular attendance, and homework completion. Family involvement extends beyond direct academic assistance; it also includeed fostering positive attitudes toward education and ensuring children's basic needs are met (Epstein, 2001). In contexts like Dokolo, where socioeconomic challenges can hinder educational attainment, parental support can mitigate adverse effects by reinforcing school learning at home and promoting persistence (Kraft & Dougherty, 2013). This collaboration between school and family created a more holistic support system for learners.

In conclusion, the level of learners' academic performance in Dokolo District primary schools reflected the combined influence of multiple interrelated factors documented in empirical literature. Adequate nutrition through school feeding programs explaining 75% and loading strongly between 0.67 and 0.82 indicating that they cohesively represent the operational aspects of the feeding program with higher loading between 0.70 to 0.84. Effective continuous assessment explaining 83% of the total variance and loading between 0.70 to 0.83 indicating that those items collectively represents the learners actual performance and engagement in continuous assessment, Foundational literacy and numeracy skills were explained by 80% and loading between 0.75 to 0.84 indicating that these items collectively represent the basic literacy skills essential for effective communication and learning. Active parental involvement, quality teaching, and supportive school environments all contributed significantly to academic success. Addressing these factors comprehensively ensured learners receive the necessary support to thrive academically, reinforcing the importance of integrated interventions and policies to sustain and further improve educational outcomes in similar contexts.

5.3 To determine the relationship between school feeding programme and learner's academic performance in primary schools in Dokolo District

The study found out that there was a positive and statistically significant correlation between school feeding programme and learners' academic performance, which aligned closely with findings from extensive empirical research across diverse contexts. School feeding programs have for long been recognized as critical interventions for improving educational outcomes by addressing malnutrition and hunger, which are significant barriers to effective learning (Bundy et al., 2009). The theoretical basis for this relationship was well-established by Abraham Maslow's Theory 1943 who suggested that investments in nutrition enhanced cognitive capacity and productivity (Maslow, 1943). Maslow's hierarchy of needs posited that basic physiological needs, such as hunger relieves, must be met before children can effectively engage in higher-order learning processes (Maslow, 1943).

Empirical studies consistently showed that school feeding programs positively impact school attendance and enrollment. For example, Adelman et al. (2008) found that children attending schools with feeding programs have higher attendance rates, a critical factor in improving academic achievement. This finding was echoed in Sub-Saharan African contexts where increased attendance due to school meals has led to improved learning outcomes (Jukes, Drake, & Bundy, 2008). In Uganda specifically, school feeding initiatives have been linked to reduced absenteeism and dropout rates, thereby increasing learners' exposure to instruction and fostering better academic performance (Gelli et al., 2017).

Nutrition plays a direct role in cognitive development and academic success. Malnutrition has been shown to impair memory, attention, and problem-solving abilities, which are essential for learning (Grantham-McGregor et al., 2007). By providing at least one nutritious meal per day, school feeding programs improve the nutritional status of learners, which in turn enhances brain function and learning capacity. Kristjansson et al. (2007), in a Cochrane review, concluded that feeding programs can improve cognitive function and psychosocial health among disadvantaged children, reinforcing the link between nutrition and academic performance.

The mechanisms by which school feeding enhances learning also include improved concentration and energy during lessons. Children who are well-nourished showed better attention spans and higher engagement in classroom activities compared to their hungry peers (Alderman, 2007). This improved concentration was essential for absorbing and retaining new information, thereby positively affecting test scores and overall academic outcomes.

Beyond physical health, school feeding programs also yielded psychosocial benefits. Jomaa, McDonnell, and Probart (2011) highlighted that reduced anxiety and improved mood due to consistent food provision support better social interaction and classroom participation. Such

emotional well-being was crucial for holistic learning experiences and positive school environments.

School feeding also eases economic pressures on families by providing meals that would otherwise need to be supplied at home. This economic relief allowed parents to allocate resources to other educational needs, increasing their support for schooling (Afridi, 2011). Furthermore, feeding programs served as incentives for families to send their children to school, particularly girls and vulnerable populations, thus promoting equity in education (Bundy et al., 2009).

However, the extent of academic benefits varies depending on program quality and contextual factors. Meal's quality, frequency, and consistency significantly influenced outcomes; for instance, programs offering diverse and nutritionally balanced meals produce greater cognitive gains (Gelli et al., 2019). Additionally, the learning environment, including teacher quality and school resources, interacts with feeding program effects to determine academic success (Hanushek & Rivkin, 2010).

Challenges such as supply chain disruptions, insufficient funding, and limited community engagement can undermine the effectiveness of school feeding programs (World Food Programme, 2020). Addressing these challenges through sustainable financing and stronger logistical systems was essential to maximize and sustain educational benefits. Research increasingly advocates for integrated approaches combining feeding programs with health education, sanitation, and teacher training to amplify impacts (Bundy et al., 2018). Such holistic interventions create environments where children's nutritional, physical, and educational needs are met comprehensively. From a policy perspective, the evidence strongly supported prioritizing school feeding within national education and health strategies. Governments are encouraged to secure stable funding, promote local procurement to enhanced

food quality and community involvement, and implement rigorous monitoring to ensure program effectiveness (Gelli et al., 2017).

In summary, the strong positive correlation observed in Dokolo District between school feeding and academic performance was consistent with a vast empirical literature base. By improving nutrition, attendance, concentration, and psychosocial well-being, school feeding programs created critical conditions for learners to succeed academically, especially in resource-limited settings (Grantham-McGregor et al., 2007; Bundy et al., 2009; Kristjansson et al., 2007)

The relationship between school feeding programs and academic performance was grounded in several interrelated theoretical perspectives. Human capital theory posited that investments in health and nutrition improve individuals' cognitive capacity and productivity thereby enhancing learning outcomes. Maslow's hierarchy of needs further suggested that basic physiological needs such as hunger must be met before learners can achieve higher cognitive functions such as attention, memory, and problem-solving essential for academic success (Maslow, 1943).

Moreover, ecological systems theory (Bronfenbrenner, 1979) highlighted that child development occurs within multiple interacting systems including family, school, and community environments. School feeding programs operate within these systems by reducing food insecurity and fostering an enabling learning environment that supports physical health and cognitive development. These frameworks collectively explained why adequate nutrition through school feeding was fundamental to maximizing learners' academic potential.

Numerous empirical studies have demonstrated the positive effects of school feeding programs on educational outcomes across diverse contexts. A meta-analysis by Kristjansson et al. (2007) found that school feeding significantly improved attendance and cognitive performance,

especially in food-insecure populations. Similarly, Adelman et al. (2008) showed that feeding programs increase enrollment rates and reduce absenteeism, which are precursors to better academic achievement.

Research in Sub-Saharan Africa and South Asia corroborated these findings. For example, studies in Kenya and India found that children receiving school meals performed better on standardized tests in reading and mathematics compared to peers who did not benefit from such programs (Afridi, 2011; Bundy et al., 2009). In Uganda, recent evaluations have linked school feeding interventions with improvements in concentration and reduced dropout rates (Jukes, Drake, & Bundy, 2008). These results aligned with the strong positive correlation found in Dokolo District primary schools.

When learners' physiological and safety needs are addressed through consistent and balanced school meals, they are more likely to attend school regularly, participate in class actively in class and concentrate during lessons. This lead to improved grades, continuous assessment outcomes, literacy and numeracy competencies as well as the acquisition of the essential life skills. Furthermore, the satisfaction of the lower order needs builds learners esteem and confidence, enabling them to aspire toward higher academic achievement and self-actualization. Therefore, the Maslow's theory strongly supports the evidence that school feeding programs are not merely welfare interventions but foundational academic strategies that directly influence learning outcomes. By fulfilling the most basic human needs, these program create the conditions necessary for learners to thrive academically, socially, and personally.

5.4 Conclusions

I. The school feeding programme in primary schools in Dokolo District demonstrated a fair level of implementation with Explanatory Factor Analysis explaining 80% and loading between 0.70 to 0.83, Effective provision of nutritious and adequate meals and frequency with Explanatory Factor Analysis explaining 80%, 83% and 82% respectively with loading between (0.70 to 0.83), (0.78 to 0.84) and (0.72 to 0.85) as reflected to the above Explanatory Factor Analysis. This initiative played a vital role in addressing food insecurity among learners, contributing to improved attendance.

II. Despite the fair level of school feeding implementation across all schools within Dokolo District, some schools were reported for giving low quality food to children that does not meet dietary standard.

III. Learners in primary schools within Dokolo District exhibited fair academic performance, reflected in improved literacy, numeracy, continuous assessment results, and life skills development. The supportive school environment, inclusive of nutrition interventions, created favorable conditions that enhanced learners' cognitive and psychosocial abilities. These reflections was explained by Explanatory Factor Analysis where Literacy competence explained 80% of the total variance with loading between 0.75 to 0.84, Numeracy competence explained 82% of the total variance with loading between 0.72 to 0.82, Continuous Assessment explained 83% of the total variance with loading between 0.70 to 0.83 and Life skills explained by 83% of the total variance with loading between o.70 and 0.81.

IV. There was a positive and statistically significant relationship between the school feeding programme and learners' academic achievement in Dokolo District. The provision of nutritious meals positively influenced learners' concentration, attendance, and cognitive function, thereby fostering improved academic outcomes.

5.5 Recommendations

I. For effective implementation, school feeding programme in Dokolo District be sustained and expanded, ensuring consistent provision of nutritious, balanced meals to all primary school learners. Strengthening partnerships with local farmers and community stakeholders can enhance food quality and program sustainability.

II. Schools that give low quality food with expired dates be advised to procure fresh and updated food materials from well-known suppliers whose expiry dates are still running and parents who bring food item at school be advised to bring good quality ones to meet the standard.

III. To maintain and further improve learners' academic performance, schools should integrate nutrition-sensitive strategies with quality teaching, regular assessments, and psychosocial support. Capacity building for teachers and investment in learning resources will complement the positive effects of nutrition interventions.

IV. Policy makers and education stakeholders should prioritize funding and support for school feeding programmes as a core component of educational development plans. Monitoring and evaluation frameworks should be strengthened to ensure that the nutritional benefits translate effectively into improved academic outcomes.

5.6 Suggestions for further research

I. Investigate the long-term impacts of school feeding programs on learners' academic achievement and overall development, including secondary and tertiary education outcomes.

II. Examine the role of meal quality and diversity within school feeding programs and how different nutritional components specifically affect cognitive functions and learning outcomes.

III. Explore the interaction between school feeding programs and other school-based interventions, such as health education, sanitation, and teacher training, to understand their combined effect on learner performance.

IV. Conduct qualitative studies to assess community and parental perceptions of school feeding programs and their influence on learner attendance and motivation.

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Appendices

Appendix I: Questionnaire for Teachers

Dear Respondent,

I am Bosco Odongo a student of Gulu University conducting a study on *"School Feeding Program and Academic Performance of Learners in Government Primary Schools in Dokolo District Uganda*". Please kindly response to these questions honestly. There are no right or wrong answers. Your views will be treated with utmost confidentiality and used for the purpose of the study only.

Instructions:

i. Tick the correct answer or write in the space provided.
ii. Use a Likert scale (5=Strongly Agree, 4= Agree,3=Disagree, 2=Strongly Disagree, 1=Not sure) to response appropriately in each case.

SECTION A: Background Information

Title……..

1. What is your gender? [ ] Male [ ] Female

2. What is your age group? [ ] 21–30years [ ] 31–40years [ ] 41-50 years [ ] 50 and above.

3. Level of education? [ ] Grade III Certificate, [ ] Diploma in Education [ ] Bachelor's Degree [ ] Postgraduate Degree [ ] other (specify): _____

4. For how many years have you been teaching? [ ] Less than 2 years [ ] 2–5 years [ ] 6–10 years [ ] More than 10 years

5. What class level(s) do you currently teach?

[ ] Lower Primary (P1–P3) [ ] Upper Primary (P4–P7) [ ] Both

Section B: School Feeding Program (IV).

Key: 5=Strongly Agree, 4=Agree, 3=Strongly Disagree, 2=Disagree, 1= Not Sure.

A	**Provision of Nutritious Meals**	**5**	**4**	**3**	**2**	**1**
01	We normally get nutritious meals from school					
02	Meals provided at school contains fruits, vegetables, proteins and grains					
03	All students are satisfied with the taste of meals served					
04	The meals served are adequate for all students					
05	School provide special meals for students with dietary restrictions					
06	The school involve parents or community in meals planning					
07	Nutritious meals help to improve students concentration and learning					
B	**Type of food given**	**5**	**4**	**3**	**2**	**1**
01	Meals served at school are of various types					
02	Fruits and vegetables are always included in the meals					
03	Meals served include proteins like beans, fish ,meat, eggs					
04	Drinks are provided during meals times					
05	Snacks like biscuits, chips are always given to learners					
06	Sugary foods and drinks are served at school					
07	Traditional or local food dishes are included in the meals					
C	**Adequacy of the meals**	**5**	**4**	**3**	**2**	**1**
01	Meals provided at school are enough to satisfy learners					
02	Meals served at school are clean and hygienic					
03	Food served at school provide good taste and nice					
04	Meals served at school with the right temperature					
05	Meals served at right portion and adequate to learners					
06	Meals are prepared using safe cooking utensils and methods					

07	Meals served are free from foreign materials like stone, hair.					
D	**Frequency of the meals**	**5**	**4**	**3**	**2**	**1**
01	Meals are provided to learners every day					
02	Learners are given breakfast in time and adequately					
03	Learners are given lunch in time and adequately					
04	Learners sometimes skip meals due to unavailability					
05	Special meals are provided during functions					

Section C: Academic Performance of Learners (DV).

Key: 5=Strongly Agree, 4=Agree, 3=Strongly Disagree, 2=Disagree, 1= Not Sure.

A	**Grades of passes**	**5**	**4**	**3**	**2**	**1**
01	Learners in my school often score good grades in exams					
02	The majority of learners pass with Division one or two in final exams					
03	There has been an improvement in grades of learners over the past two years					
04	Poor academic performance is common among learners in this school					
05	Teachers help learners improve their grades through extra lessons					
06	Continuous assessment contributes to improved pass grades					
07	Learners who attend school regularly perform better in exams					
B	**Continuous Assessment**	**5**	**4**	**3**	**2**	**1**
01	Continuous assessments help to improve learners academic performance					
02	Learners are regularly assessed through class tests and assignments					
03	Continuous assessment results are recorded and monitored					

04	Teachers use continuous assessment to identify learners weaknesses					
04	Continuous assessments motivates learners to study harder					
05	Continuous assessments help teachers to adjust their teaching methods					
06	Feedback from continuous assessments helps learners to improve					
07	Continuous assessments supports better performance in final exams					
C	**Literacy Competence**	**5**	**4**	**3**	**2**	**1**
01	Learner know how to spell simple English words					
02	Learners know how to write simple sentences correctly					
03	Learners can read and understand short stories in English					
04	Learners can answer questions after reading a passage or story					
05	Learners can write a short paragraph about your school or family					
06	Learners enjoy reading books or stories at home or in school					
D	**Numeracy Competence**	**5**	**4**	**3**	**2**	**1**
01	Learners can you solve simple addition problems					
02	Learners know how to subtract one number from another					
03	Learners are able to multiply small numbers correctly					
04	Learners can divide numbers without using a calculator					
05	Learners understand the concept place values (e.g., tens, hundreds, thousands)					
06	Learners can use numeracy skills outside school (e.g., in markets or at home)					

Thank you for participating.

Appendix II: Documentary Checklist for Head teacher

Dear Head teachers,

I am Bosco Odongo a student of Gulu University conducting a study on *"School Feeding Program and Academic Performance of Learners in Government Primary Schools in Dokolo District Uganda*". Please kindly help me to check on the following areas to guide this study. There are no right or wrong answers. Your views will be treated with utmost confidentiality and used for the purpose of the study only.

SECTION A: Background Information

1. Age: [ ] 30 – 40, [ ] 41 – 50, [ ] 51 and above
2. Gender: Male [ ], Female [ ]
3. Level of Education attained: Bachelor [ ], Masters [ ], PhD [ ], Others [ ]

Instruction: please insert tick [ ] in the appropriate box of YES or NO but not both

Section B: Status of School Feeding Program in Government Primary Schools.

S/No	Items to be checked	Yes	No
01	The school has school feeding program in place		
02	The school has a well-ventilated store free of pests for keeping food		
03	There is proper record keeping for school feeding program at school		
04	Food are prepared and served under hygienic and dust free conditions		
05	School feeding program are included in school development plan		
06	Parents are involved in proper management of school feeding program		
07	There are records of meetings held to discuss about school feeding program		
08	There are designated and functional well ventilated kitchen at school		
09	The school has school gardening activities to support school feeding program		

10	There are records to show the frequency of meals served at school		
11	There are records to show stakeholders monitoring schedules for the program		
12	There is evidence of good quality food being prepared for the learners		
13	Community are the major sources of food supply to the school		

Section C: Academic Performance of Learners in Primary Schools

S/No	Items to be checked	Yes	
01	Do our learners always passes with good grades to the next class		
02	All records of learners academic performance are well kept by school		
03	School have records of continuous assessments given to learners		
04d	Records of learners performance in National exams are displayed		
05	Are learners issued with report cards regularly for parents to comment?		
06	Learners books are marked regularly by teachers and corrections done		
07	Are there records of support supervision being given to teachers to improve performance		
08	There is progress record charts to track records of learners academic improvement		
09	There is evidence to show work plan for academic improvement at school		
10	There is evidence to show teachers time management at school		
11	Pupils records of attendance are captured on daily basis		
12	Most learners of P.6 and P.7 can now read and write with less difficult.		
13	There is evidence that the school consider all categories of learners and equal opportunities is given to all of them to study freely.		

Thank you for participating

Appendix III: Focus Group Discussion Guides for Learners

Section A: Background Information.

Self-introduction by each member's present for the discussion.

Section B: Discussion Guide.

1. Do we have school feeding programme in this school?
2. What is the level of school feeding program in your school?
3. How do your school performs academically when it comes to national examinations?
4. Are there relationship between school feeding program and academic performance of learners in this school?
5. What are the challenges facing school feeding program in your school?
6. What measures should be put in place to mitigate the challenges facing school feeding program in your school?

Thank you for participating

Appendix IV: Focus Group Discussion Guides for Chairpersons PTA and SMC.

Section A: Background Information.

Self-introduction by each member's present for the discussion.

Section B: Discussion Guide.

1. Are there school feeding programme in this school?
2. What is the level of school feeding program in your school?
3. What is the level of Academic Performance in your school?
4. Are there relationship between school feeding program and academic performance?
5. What are the challenges facing school feeding program in your school?
6. What measures should be put in place to mitigate the challenges facing school feeding program in your school?

Thank you for participating

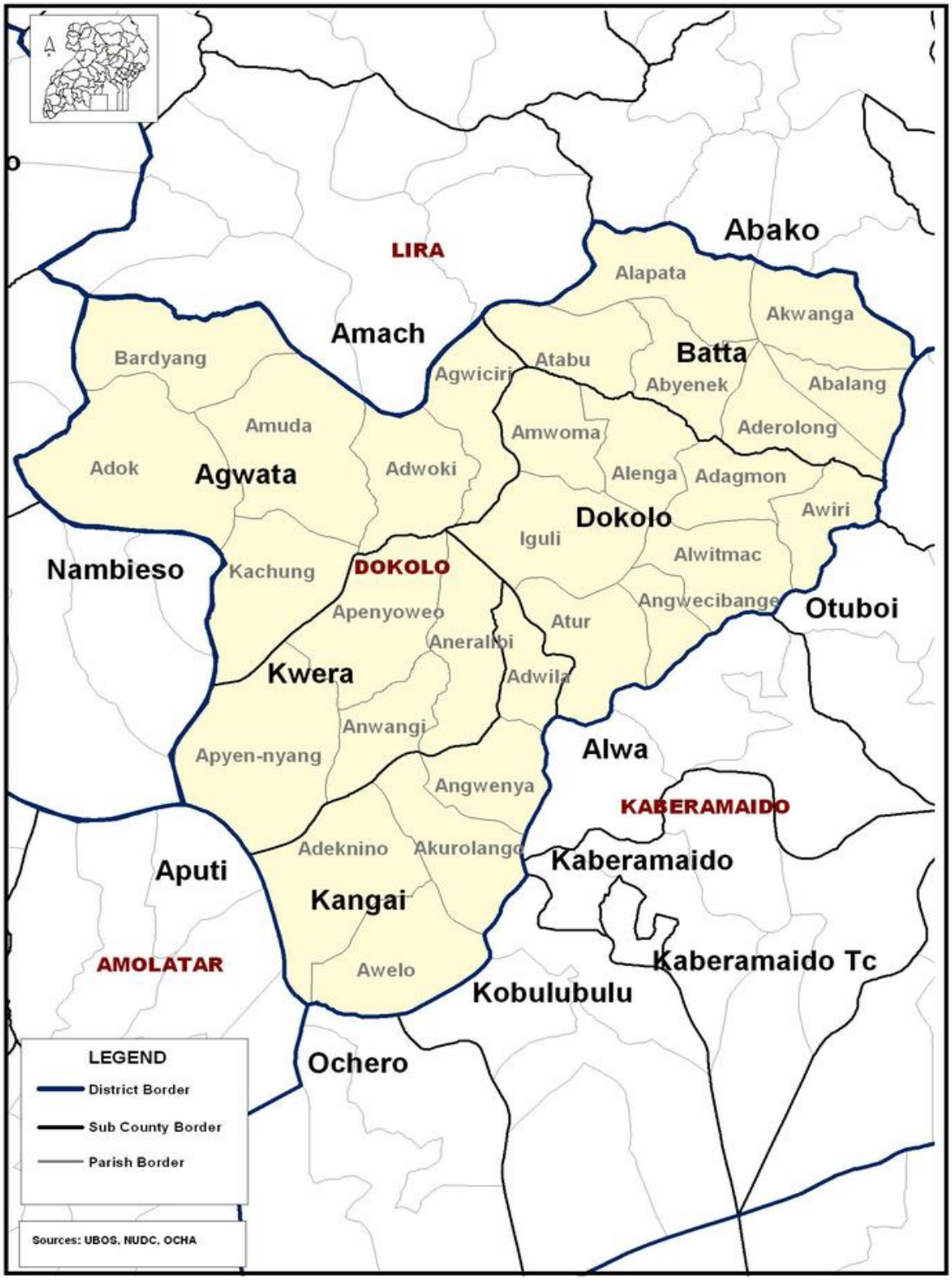
Appendix V: Sample Size Determination Table

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Appendix VI: A Map of the Study Area



Appendix VII: Introductory Letter

GULU UNIVERSITY
P.O. BOX 166 GULU
TEL: +256471432922;

OFFICE OF THE DEAN, FACULTY OF EDUCATION AND HUMANITIES

AUGUST 1ST, 2025

TO : WHOM IT MAY CONCERN

This is to introduce to you Mr. Odongo Bosco (Reg No. 23/U/0639/MFC/PS) a student pursuing a programme of study leading to an award of Master of Education in Curriculum Studies and Foundation of Education of Gulu University.

He is undertaking research on the Topic:
THE SCHOOL FEEDING PROGRAM AND LEARNERS' ACADEMIC PERFORMANCE IN GOVERNMENT PRIMARY SCHOOLS IN DOKOLO DISTRICT.''

Which is in partial fulfilment of the requirements for the award.

Any assistance rendered to him in relation to this research work will be highly appreciated.

GULU UNIVERSITY
01 AUG 2025
FACULTY OF EDUCATION AND HUMANITIES

Yours faithfully,

Assoc. Prof. Denis Thaddeus Okoyuru
Dean, Faculty of Education and Humanities

Appendix VIII: Plagiarism Report

GULU UNIVERSITY

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URL: www.gu.ac.ug

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This form must be completed and signed for all scholarly work produced.

Name: BOSCO ODONGO (MR.)

Personal File No.(staff) Reg. (student). REG. 23/U/0639/MFC/PS

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Department: CURRICULUM AND EDUCATIONAL TECHNOLOGY

Title and bibliographic description of the work

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Declaration.

1. I understand what plagiarism is and I am aware of the University policy on this regard,
2. I declare that this … **Dissertation** … (Proposal, thesis, essay, assignment, paper, report etc.) is my original work and has not been submitted elsewhere for examination, award of a degree or publication. Where other people's work or my work has been used, this has been properly acknowledged and referenced in accordance with Gulu University requirements,
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Signature Bosco Date 26/08/2025

Originality Report

The article/thesis/document titled above have been subjected to plagiarism check and the level was found to be.....**15%** this is classified as:

- ✓ Minor
- ☐ Moderate
- ☐ Serious

Yours sincerely,

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