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Abstract

Feeding students especially at school increase the students' school productivity due to the fact that students get opportunity to take lunch at school and continue their studies. The purpose of this study was to establish the relationship between the program of offering lunch to students and students' attendance in Rusizi District. The target population was 360 respondents. From this population, a simple random sampling and convenient sampling techniques were used to get 189 respondents. Questionnaire, document analysis review and observation were used as data collection instruments. IBM SPSS version 23 was used in the study for the management of quantitative data. Besides, thematic analysis was used to analyze the qualitative findings. The findings revealed the implementation of lunch meal program is effective in terms of involvement of stakeholders with the mean of 3.51 and meal quality and quantity with the mean of 3.44 which is interpreted as high and assets and materials were rated as moderate. It was also found that the level of dropout has diminished considering the mean of 3.95, the level of absenteeism has diminished considering the mean of 3.42, the students can spend the whole day at school without any interruption considering the mean of 3.96, and it was revealed that students can endure long hours of teaching without showing fatigues considering the mean of 3.82. The study revealed that there is a statistical significant positive correlation between meal lunch program and school attendance where $r = 0.771$ and $P = 0.016 < 0.015$. It is recommended that all involved stakeholders should work hand in hand to improve the program lunch mean at schools since it may help in producing students who are competent.

Keywords: School, school attendance, school feeding program and 12 Years basic education

1.0 Introduction

All over the world any society counts on his children as a starting point that emphasizes its development. As in other societies, the Rwandan development in the future will be shaped by its children's growth and development. The education for all children in Rwanda has become a priority policy where all children with school age either normal or with special needs have to complete the basic education. Nine and Twelve Years Basic education has been established in Rwanda as day schools to facilitate all the children to have access to education. Since 2009, schools have been constructed and reinforced near the community to

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facilitate that access to the basic education free of cost. Those schools are day schools since their beginning where children had to pass the all day and return home evening after courses. In their beginning, schools were not offering lunch to students. It was a hard problem to teach students who left their homes early the morning without eating, and teach them afternoons without taking lunch as usual. This led to some problems such as malnutrition, school absenteeism and drop out and even poor performances of learners. In 2013, a policy of providing lunch meal to students has been established in day schools with the objectives of reducing hunger, malnutrition, increasing school enrolment, attendance and promotion among others. So, as for Lamis *et al* (2014), the educational status of the beneficiaries has resulted increasingly to that program and indirectly the program impacts the socioeconomic lives of the beneficiaries as well as their families.

In order to eradicate the malnutrition among learners and to help them to increase the academic performance, in their retreat of 2013, the Rwandan Leaders decided to initiate and sensitize parents and schools the feeding program in all the day secondary schools all over the country. Due to fear of the failure of the program, the intention of the government was that parents should play a key role in the implementation and management of the program, first for the wellbeing of their children while at school as they do also at home. In its beginning, parents are the first implementers of the program and schools are already concerned with its sustainability mobilizing and sensitizing the community about its importance, collecting food and monitor the implementation. It was agreed that schools should work closely with parents for the effective success of the program. About that decision, parents and schools suggested that the government should throw more weight behind the scheme to ensure its success (Ministry of Education 2014 - 2015).

However, when the State Minister of education was launching the program at G.S Mutongo in Rusizi District, he insisted that school heads, parents and local leaders should monitor the implementation of the program so that no child is left out of the scheme. The program has already started and all the public day schools are running it. In this regards, this research examines the importance of the lunch- offered to students at school towards the improved learning outcomes in day schools with a case study of RUSIZI District, considering the reduction of school absenteeism and drop outs, school enrolment and retention, learning concentration, improved learners' performance and the collaboration of schools with parents and stakeholders to sustain the program.

1.1 Statement of the Problem

In 2000, the United Nations set Millennium Development Goals (MDGs) to be achieved by 2015 to combat poverty, hunger, and low educational achievement. The MDGs have been superseded by the Sustainable Development Goals (SDGs) to be achieved by 2030. Food for education programs are being used to reach MDGs and SDGs (World Bank, 2012). School feeding programs may also provide vital micronutrients that may benefit cognitive abilities and educational outcomes (Roberts *et al*, 2022). In order to fulfill the target of MDGs and SDGs in terms of education for all the government of Rwanda has initiated the school feeding program in 2012 in order to encourage poor families to enroll their students and this was intended to boost the level of school attendance since before 2012 the number of school dropout was high. In 2014 the program was expended in all day schools of the country especially in day schools where students in 12 years basic education were showing the signs of dropout and irregularities for attendance. The purpose of this study therefore, is to establish the relationship between the program of offering lunch to students and the students' attendance especially in 12 years basic education in Rusizi District in Rwanda.

1.2 Research Objective

The objective of the study was to establish the relationship between the program of offering lunch to

students and the students' attendance especially in 12 years basic education in Rusizi District in Rwanda.

2.0 Literature Review

The literature review was presented in sections.

2.1 Origin of school feeding

It is too difficult to separate education and health because they are like two sides of the same coin, when country invest in education should invest in health simultaneously. The economy of every country is based on the skills of the human capital. The human capital depends on quality education, good health and nutrition are necessary for children to be able to participate and learn well in school in order to increase the academic performance. The students who are well fed learn more and performer better. This is the reason why most countries in the world have established program of feeding children as the means of achieving sustainable development. This program began in the 1930s, when feeding plans were implemented in England and the United States of America with the goal of improving learners' growth by providing milk (Ritcher *et al*, 2000). Following WWII, Brazil implemented a school nutrition and food security program (Swartz, 2009). In Malawi, there was existed food for Education (FFE) and supplied school meals as strategy to alleviate short term hunger and achieve the expected academic outcomes to increase school enrolment, attendance, and learning abilities. Many African countries implemented school feeding program in order to pass over hunger of students from poor families and vulnerable children (Swartz, 2009).

2.1.1 School feeding program in Rwanda

Following six years of school implementation with WFP Food Aid for Education in collaboration with the Ministry of Education, Rwandan authorities were eager to expand a countrywide college-based feeding program that would take into account the Rwandan context (Umuhoza, 2013). Such a method would have to be local and geared towards the long-term sustainability of college feeding by means of faculties and surrounding communities. With years of school feeding experience in Rwanda, the Ministry of Education understands the significant value it contributes to the quality of education given, particularly in underprivileged communities. The Ministry would favor to build on this journey by using consolidating the quite a number authorities and improvement partner-assisted initiatives applied into a single comprehensive nationwide owned home-grown program, initially focused on the country's most vulnerable areas and regularly scaling up over time to acquire national insurance (Umuhoza, 2013).

2.1.2 Objectives of the school feeding Program in Rwanda

The school feeding program aims to promote basic education by improving enrolment, attendance, and academic performance. In places with high food insecurity, school feeding also helps to reduce dropout rates (2006). It seeks to reduce disparities in access to education caused by gender differences, and it may also seek to address other disparities (urban, rural, and interregional). The main goals of Rwanda's School Feeding program, according to MINEDUC (2013), are to ensure adequate nutritional intake for pre-primary and primary school-aged children, with a focus on the poorest and most food insecure areas; to reduce disparities in pre-primary and primary education by improving registration, attendance, and graduation rates; and to create a structured demand for intensive agriculture, with a significant portion obtained from smallholders far away. As part of the scenario development in the recently completed cost study, MINEDUC established a targeting plan to attain the aforementioned aims.

2.1.3 Factors influencing the implementation of school feeding program

Community involvement is a sense of belongingness. This includes the free flow of information about a society's happiness, sadness, improvement, and drawbacks. Community participation, according to Moninka (2000), is a sociological process in which people of a certain area or neighborhood organize themselves to improve their daily living conditions. Water supply, health and sanitation, education, and food supply via a small agricultural program are all included. Individual or collective involvement in the form of financial contributions, resource contributions, social and political dedication at various stages of program application constitutes various degrees of community engagement (Moninka, 2000). Hunger has been a barrier to school enrollment in many households. In addition, such adolescents are greater likely to drop out of school due to the fact they must attend to their instant nutritional wishes before enrolling in school. Financial support is very crucial for any program to be successful. In today's life, money is what matters most for anyone to succeed in doing any project, without it you cannot move anywhere, you will be stagnated.

2.2 Review on school Attendance

School attendance refers to a learner's daily or everyday participation in school activities (Gottfried, 2010). Learners who attend college on a regular basis have access to frequent educational support to help them achieve their educational goals (Oghuvbu, 2010). According to Honneth (1995), when college students succeed academically, they are aware of their own identities and have intersubjective awareness of their social and man or woman talents. Regular teacher attendance, according to Epstein and Sheldon (2002), is a commitment to classroom time and activities from enrolling to completion of a comprehensive educational program. Students' tutorial performance is heavily influenced by their attendance at school. Ordinary college attendance, according to Roby's (2004) School Attendance Hypothesis, can help college students achieve academic achievement. Similarly, according to Fleming (2008), students must attend college on a daily basis in order to be fully involved in lecture room activities. Nonstop instructor training and parental/guardian encouragement, according to Black *et al.* (2014), reinforce school attendance. It is, however, prison for faculty instructors to preserve a day by day pupil attendance report (Bagaya, 2019). As a quality assurance measure, the attendance record is reviewed on an ordinary foundation by means of the primary and the district inspector of faculties (Nsubuga, 2008).

2.2.1 Dimensions of school attendance

A growing corpus of research splits students into two groups: college students and absentees (Schoeneberger, 2011; Nichols, 2003; Rana *et al.*, 2015). Similarly, the US Department of Education (2019) distinguishes between occasional and regular college participants. Zubrick (2019) advocates dividing college absentees into five categories: truancy, dropout, mobility, absenteeism, and expulsion. Each of these dimensions of college absenteeism includes an extraordinary vicinity of focus. According to the National Audit Office (2005), truancy has prison consequences and is frequent among a sure age group. A school dropout is a situation characterized by a progressive loss of academic continuity, low retention, and minimal participation (Council of Australian Governments, 2010). It frequently reveals learner division patterns into educational and vocational streams (Reid, 2012). Furthermore, the patriarchal social order and college system stigmatize and discriminate against girls, resulting in a high dropout rate (Gray & Partington, 2012). High poverty ranges in households are a fundamental motive of faculty dropout in the developing world, even in UPE faculties where education is free (Morrissey *et al.*, 2014).

Chronic school absence is probably to have a terrible influence on pupil achievement. According to the Baltimore Education Research Consortium (2011), college students who pass over two or greater college days are continual absentees who frequently obtain low grades. Chronic absenteeism is described by means

of Epstein and Sheldon (2002) as a scholar missing 20 or greater college days in one tutorial school year. However, Balfanz and Byrnes (2012) define chronic absentee students as those who omit 10% or more of college attendance for any reason, excused or unexplained, over the course of one educational faculty year. Sheldon and Epstein (2002) argue that when college students leave out school on a regular basis, they are labeled as chronically absent. Students who are frequently absent from class are more likely to smoke, drink alcohol, or abuse drugs. Persistent absenteeism is particularly common among low-income students, according to Balfanz *et al.* (2007), who typically encounter financial difficulties due to their inability to pay faculty charges on time. The present day finds out about hypothesizes that one-of-a-kind stages of absenteeism will have distinct results on educational performance.

2.2.2 Effect of school feeding on school attendance and school performance

According to Yunusa (2012), in many developed and developing countries, the schoolfeeding program has intervened critically to address poverty issues that impede school enrollment and participation, and as a result, student performance has improved. Furthermore, he stated that this program enabled students to attend school on a regular basis and focus effectively. Their regular attendance and concentration improved their performance. Providing food for consumption at school is important for learning because it alleviates hunger in a short period of time. Students who are not hungry are more motivated to learn and have higher cognitive skills, resulting in improved academic performance (Simeon, 1998). When students' hunger is alleviated at school, their performance in school tests improves, and they progress normally from level to level or grade to grade in order to complete their basic education. An investigation was conducted on Grade 2 students in Jamaica. Yunusa observed higher Arithmetic scores of students during the implementation of feeding at their schools. It was discovered that the program not only motivated parents to enroll their children, but it also improved the learners' performance through various influencing factors. Many researchers have investigated the impact of the school feeding program on student performance, and Adenkule *et al.* (2016) discovered that the School Feeding Program has a positive impact on student performance.

3.0 Research Methodology

The study employed correlation research design to establish the relationship between the program of offering lunch to students and students' attendance especially in 12 years basic education in Rusizi District in Rwanda. The sample size was 189 respondents. The study employed Yamane formula to get the sample size. Stratified sampling technique, simple random sampling technique and purposive sampling technique were used. The data were collected using questionnaires, documentary review and observation. The validity of the research instrument was maintained by distributing the research instruments to the expert respondents in the area of the study while reliability was maintained by making pilot study that provided reliability of the research instrument and a co-efficient of 0.9 was discovered during test-retest of the two instrument sets, showing a good correlation. The data management of this study was maintained by using SPSS software version 23.

4.0 Findings

This study was to establish the relationship between the program of offering lunch to students and the students' attendance especially in 12 years basic education in Rusizi District in Rwanda.

4.1 Effectiveness of school meal lunch program 12 years basic education schools in Rusizi District

4.1.1 Existence of the assets and materials for meal preparation

This was found to be examined in order to know if schools possess sufficient materials for preparing needed meals for students and this could hinder the effectiveness of the program since it is not cared for.

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Table 1: Existence of the assets and materials for meal preparation

Assets and materials	Mean	Std. Deviation
There is enough space to take food for students	3.83	.746
There are enough materials that are used to prepare the food	3.36	.772
The school have specialist in nutrition	2.27	.678
The schools have best ways to store the plates and spoons of students	3.63	.705
The school have modern sinks helping in hygiene of used materials while cooking and eating	3.33	.767
Average	3.284	.39807

According to the above Table I, visited schools in terms of assets and materials for meal preparation was once assessed in the following manner: existence of enough house to take food for college students with the imply of 3.83 which is interpreted as high mean, schools had been reported to have satisfactory approaches to shop the plates and spoons of college students with the imply of 3.63 which is interpreted as excessive mean. On moderate level the following have been printed to exist on reasonable stage meaning existence of adequate substances to put together the food with the imply of 3.36 which is interpreted as average mean, and existence of current sinks helping in hygiene of used materials while cooking and eating considering the mean of 3.33 which is interpreted as high mean. However, schools have been found to be critical in having nutrition specialist where the mean was found to be 2.27 which is interpreted as low mean. Partially it is to conclude that the assets and materials that are used in schools is on moderate level considering the mean of 3.28 which is interpreted as moderate mean and this shows that improvements and some recommendations are needed.

4.1.2 Involvement of stakeholders regarding implementation meal lunch program

The implementation of the meal lunch program is not easy one. It requires the involvement of stakeholders from education planners to teachers without forgetting the role of parents. Below table shows how different stakeholders are involved in the implementation of the program.

Table 2: Involvement of stakeholders regarding implementation meal lunch program

Involvement of stakeholders	Mean	Std. Deviation
The school staffs help in budgeting the quantity of food to be used per trimester	3.65	.880
The school staffs monitor the ingredients of meal for being sure of the quality provided	3.05	.737
The school staffs work with parents to have sufficient budget for purchasing the meal	3.96	.692
The MINEDUC provides the amount reserved for feeding program at time	3.31	.823
School staff helps poor students to be able to get food at school	3.62	.743
Average	3.518	.39502

Table 2 shows the perceptions of the respondents regarding the extent by which stakeholders involve in the implementation of meal lunch program in Rusizi District. It has been found that school staffs help in budgeting the quantity of food to be used by the trimester with the mean of 3.65 which is interpreted as high mean, the schools staffs work with parents to have sufficient budget for purchasing the meal considering the mean of 3.96 which is interpreted as high mean, and it was found that schools staffs help poor students to be able to get food at school considering the mean of 3.62 which is interpreted as high mean. Moderately, it was revealed that schools staffs monitor the ingredients of meal for being sure of the quality provided considering the mean of 3.05 which is interpreted as moderate mean, and MENEDUC provides the amount reserved for schools feeding programs considering the mean of 3.31 which is interpreted as high mean. Regarding the involvement of stakeholders, it is to say that is well appreciated since the average of means is 3.51 which is interpreted as high mean.

4.1.3 Meal quality and quantity regarding implementation meal lunch program

The indicators of effectiveness of meal lunch program in schools that were selected in this study included the quality and quantity of meal provided to students. Below table shows the perceptions of respondents regarding quantity and quality of meals provided to students.

Table 3: Meal quality and quantity regarding implementation meal lunch program

Meal quality and quantity	Mean	Std.Deviation
The quality of meal is better and helpful for students	3.23	.682
The quantity of food for each student is Sufficient	3.76	.742
The hygiene of food follows food preparation standards	3.35	.865
The staff check the out-dated products and are not allowed to be cooked	3.60	.651
Varieties of meals are given to students	3.30	.709
Meal quality and quantity	3.448	.36620

According to the above Table 3, the quality and quantity of food regarding the implementation of lunch meal program is made effective by the following: the quantity of food for each student was said to be sufficient considering the mean 3.76 which is interpreted as high mean, and the staffs check the out of - dated products and outdated are not allowed to be cooked considering the mean of 3.60 which is interpreted as high mean. Moderately, it was revealed the quality if meal is better and helpful for students considering the mean of 3.23 which is interpreted as moderate mean, the hygiene of food follows food preparation standards considering the mean of 3.30 which is interpreted as moderate mean. Partially, it is to conclude that the quality and quantity of meal is well appreciated considering the meal of 3.448 which is interpreted as high mean.

4.2 Assessment of school attendance in 12 YRS basic education in Rusizi District

This was achieved by requesting participants in this study on how they see the schools attendance with the support of various indicators.

Table 4: Assessment of school attendance in 12 YRS basic education in Rusizi District

School attendance	Mean	Std.Deviation
The level of dropout has diminished	3.95	.881
The level of absenteeism has diminished	3.42	.730
The students arrives at school early	3.18	1.090
The students can spend the whole day at school without interruptions	3.96	.568
Students can endure long hours of teaching without showing fatigues	3.82	.659
Average	3.6667	.32976

According to the above table, the attendance of students is assessed in the following manner: the level of dropout has diminished considering the mean of 3.95 which is interpreted as high mean, the level of absenteeism has diminished considering the mean of 3.42 which is interpreted as high mean, the students can spend the whole day at school without any interruption considering the mean of 3.96 which is interpreted as high mean, and it was revealed that students can endure long hours of teaching without showing fatigues considering the mean of 3.82 which is interpreted as high mean. For partial conclusion, it isto say that the attendance of students in 12 YRS basic education is good and this is helpful to the performance of students. Meaning that providing meal at schools could have double advantages meaning the improvement of school attendance and improvement of academic performance.

4.3 Relationship between lunch meal and attendance of students in 12 years basic education

Table 5: Correlations between meal lunch program and student attendance

		Meal lunch program	School attendance
Meal lunch program	Pearson Correlation	1.000	
	Sig. (2-tailed)		
	N	189	
School attendance	Pearson Correlation	.771*	1.000
	Sig. (2-tailed)	.016	
	N	189	189

*. Correlation is significant at the 0.05 level (2-tailed).

The study results presented in Table 5 indicates there is a positive correlation between meal lunch program and school attendance considering the Pearson Correlation of 0.771. This was found to be statistically significant since the tabulated p-value was 0.016, below the p-alpha of 0.05. This justifies the opinions of the respondents meaning that in any way and all means providing meal to students improve their performance. Hence the previous studies have stressed that where they confirmed that school feeding program may increase the enrollment of students and their achievement. A study conducted in Malawi by WFP showed that a small, pilot, school feeding program over a three-month period led to a 5 percent increase in enrollment and up to 36 percent improvement in attendance (WFP, 1996). An evaluation of a school meal program in Jamaica found that after the first semester, the treatment class showed improved school attendance compared to the control classes (Powell, and Grantham-McGregor, 1983). Another evaluation of a school feeding program in Burkina Faso found that school canteens were associated with increased school enrollment, regular attendance, consistently lower repeater rates, lower dropout rates, and higher success rates on national exams, especially among girls (Moore, and Kunze 1994). However, in a

study conducted in Kenya, the investigators did not find a difference in the attendance rates between schools with and without the school feeding program (Meme et al. 1998). School feeding programs have also proven effective in reducing the education gap between girls and boys. For example, program evaluation results from Pakistan, Morocco, Niger and Cameroon show that while food is the initial motivation for sending girls to school, parents of participating girls develop an interest in the education of their daughters. This change in attitudes is an important factor in enhancing parents' commitment to education beyond the duration of food assistance (WFP 2002a).

5.0 Summary of findings and Conclusion

The findings revealed that diminishing the stage of faculty dropout with the mean of 3.87 which is interpreted as high mean, less absenteeism considering that the provision of meal considering the mean of 3.51 which is interpreted as high mean, offering meal helped students to arrive at faculty early thinking about the mean of 3.85 which is interpreted as excessive mean, presenting meal helped students to observe training except fatigue considering the suggest of 4.17 which is interpreted as high mean, and it used to be determined that supplying meals to college students enlarge the hope of overall performance amongst students. The study concludes that providing meal at school is more fruitful and help student to achieve many targets related to academic performance. Even though, the challenges and issues in the implementation of the program coexist and below section is about the recommendations for improving the program.

6.0 Recommendations

Based on the findings, the following recommendations are made;

- i. Schools should work with other stakeholders for availing the efficient materials to use while preparing meals
- ii. Schools should put in place nutritional specialists in order to increase quality control of food provided to students
- iii. There should be improving hygiene materials like sinks in order to facilitate dish washing where this may help fighting bacteriology related infections that may affect students
- iv. MINEDUC should improve the way it avail budget to support the program in order to avoid the ineffectiveness of the program.
- v. Even if it is hard and complicated, schools and parents should work together to provide varieties in feeding students.

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