IMPACT OF SCHOOL FEEDING PROGRAMME ON ACADEMIC PERFORMANCE OF PRIMARY SCHOOL STUDENTS IN MAKURDI TOWN

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Abstract
Nutrition is crucial in the child's physical, emotional and cognitive development. Most primary schools in Makurdi town admit children from disadvantaged households. These children have no guarantee of daily meals due to their poor socio-economic background. The problem of malnutrition and its effects on brain development, physical and intellectual functioning has tremendous implications. The purpose of the study is to investigate the impact of school feeding programme on academic performance of primary school students in Makurdi town. The study is anchored on Abraham Maslow's Hierarchy of Need theory (1943). Maslow (1943), proposed the idea that all human beings had a hierarchy of needs hierarchy of human needs (HHN). Maslow believed that every human being had several layers of needs, beginning at the base, each layer need must be met before someone can meet the needs of the next layer. The study adopted a mixed research methodology. The study reveals that quality of food provided has a significant impact on the academic perfomance of primary school students and that quantity of food provided have a significant impact on the academic performance of primary school students. Again, that there is a significant impact between the frequency of food provided to primary school students and their academic performance. The study concludes that poor food quality, low quantity of food and irregular provision of meals to primary school students haave significantly impacted primary school students' academic performance in Makurdi town and recommends the sensitization of school administrators on the need to ensure that food supplied to the primary school students is adequate and contain the nutritional value crucial for the growth and development of the primary school students; and that the food should be prepared under hygienic conditions to avoid food poisoning among the primary school students.

Keywords: School Feeding Programme, Quality and Quantity of Food, Hierarchy of Needs

Introduction

School feeding programme constitute critical interventions that have been introduced in many developed and developing countries of the world to address the issue of poverty, stimulate school enrolment and enhance pupils' academic performance. In developing countries, almost 60 million children go to school hungry everyday and about 40 percent of them are from Africa. Providing school meals is therefore vital in nourishing children. Parents are motivated to send their children to school instead of keeping them at home to work or care for siblings (Akanbi, 2013).

The introduction of the school feeding is traced to the Millennium Development Goals (MDGs) initiative and several conferences held thereafter by African leaders which aimed to tackle issues, such as peace, security, good economic, political and corporate governance and to make the continent an attractive destination for foreign investment. Some of these developments include the 'New Partnership for African Development' which according to the blueprint is a pledge by African leaders, based on common vision and a firm and shared conviction, to eradicate poverty and to place their countries on the path of

sustainable growth and development and, at the same time, to participate actively in the world economy and politics.

Also, the 'Comprehensive African Agriculture Development Programme' and the 'Millennium Hunger Task Force' amongst others were initiatives which were designed to link school feeding to agricultural development through the purchase and use of locally produced food (Bundy et al, 2009). Nigeria happened to be one of twelve (12) pilot countries invited to implement the programme. So far, Nigeria, Cote d'ivore, Ghana, Kenya and Mali commenced the implementation of the school feeding programme. As a result, the Federal Government came up with the Universal Basic Education Act in 2004, which provided the enabling legislative backing for the execution of the Home Grown School Feeding and Health Programme.

Towards the realization of the objectives of the Universal Basic Education programme and the central role of nutrition, the Federal Ministry of Education launched the Home Grown School Feeding and Health Programme in 2005. The overall goal of the School Feeding Programme in Nigeria is to reduce hunger and malnutrition among schoolchildren and enhance the achievement of Universal Basic Education. Although The Home Grown School Feeding and Health Programme was launched, it did not receive attention until the change of government in May, 2015. Subsequently, the new administration, under the leadership of Muhammadu Buhari convened an education summit headed by Professor Yemi Osinbajo.

The summit's objective was to critically examine the problems hampering growth and progress of education in Nigeria and to proffer workable solutions. At the end of the summit, recommendations were made towards repositioning education in Nigeria which among others included the School Feeding Programme transformation. Thereafter, a comprehensive review of the old school feeding programme was undertaken. The Programme targets Public Primary Schools students in primary 1-3; in the country to be fed with one meal per day (Ministry of Education, 2017). Child psychologists have said that growth and development of a child depends among other things the nutrition of mother before and after birth. The provision of adequate nutrition aims at promotion of good health recognized as constituting the found action of proper growth of children.

Various researchers assert that a child's fastest growth in physical, mental and socio emotional characteristics take place during this age and children are found to be most vulnerable to environmental influence. More traumatizing is that growth deficiencies that occur during primary school years are difficult and sometimes impossible to reverse. Following this argument then, attention to raise primary school students' academic performance and enrolment due to its importance should provide numerous opportunities focusing in raising the nutrition and health of 0 - 6 years age group. It's clear that improved nutrition and health are seen as necessary conditions for enhanced academic performance and increased school enrolment among primary school students (Ministry of Education 1998).

Songa (2011) says the School Feeding Programme of the federal government was initiated as a response to the quest for reduced costs, a more sustainable feeding programme, provision of predictable market for local farmers, boost local development and to enhance local ownership of school meals programme. The overarching objectives of the school feeding programme are to act as a vehicle for promoting local development and fighting food and nutrition insecurity, disease and to stimulate agriculture production and development by linking local small producers to markets (schools).

Within education, Kiamba (2013) maintained that the purpose of School feeding programme is to enhance academic performance, increase enrolment, promote regular school attendance and enhance gender equality. In the opinion of Neeser (2012), the advantages of

linking local agriculture and school feeding are substantial: more prosperous smallholder farmers, with a more secure future; stronger rural communities, with more stable economies; increased demand for local, fresh food; and healthier, happier children. Osei (2012) adds that the School Feeding Program has created job opportunities for cooks to the objectives of the federal government in Nigeria.

Though high school performance by the pupils is supposed to be an indirect impact of school feeding on pupils participating in the programme, there has been limited or in sufficient research into the relationships between nutritional status, the participation in school feeding programs and school performance. It is against this background that this study seeks to find out whether school feeding programme has impact on primary school students academic performance in Makurdi town.

School Feeding and Students Academic Performance

School feeding is simply the provision of food to children through schools and can be grouped into two broad categories: in-school meals and take-home rations where families are given food if their children attend school.

Historically, in-school meals have been the most popular modality of school feeding interventions. The school feeding can be in turn grouped into two common categories: programme that provides meals and programme that provides high-energy biscuits or snacks to generate greater impacts on school enrolment, retention rates, and reduce gender or social gaps (Akanbi, 2013). UDuku, (2011) contended that there are `indications of a significant swing in thinking about school feeding and many elements of this new thinking are being promoted keenly under the rubric of "homegrown school feeding". Tomlinson (2007) traced the emergence of school feeding programme to the 1930s in the United Kingdom and the United States of America with a focus on improving the growth of children. In 1900 Netherlands became the first country to move the programme to a new level of incorporating school meals into a national legislation. By the1930s, the United Kingdom and the United States had also instituted the school feeding programme as part of their national programmes.

In order to improve the nutritional status of school children, the Federal Government of Nigeria launched the Home-Grown School Feeding and Health Programme in September, 2005 under the coordination of the Federal Ministry of Education. The programme aimed to provide pupils with adequate meal during the school day (FME,2007). The scheme, officially known as Home Grown School Feeding Programme insisted on buying the foodstuffs from the local farmers. It therefore reduced the rate of malnutrition while it also provided the local farmers the opportunity to sell their produce to participating schools. According to the Federal Government's directive, Federal, State and Local Governments were to fund the programme with the State and Local Governments providing the bulk.

The menu for the school feeding programme is based on national guidelines but adjusted to accommodate local availability. The school meal served is assorted and nutritious and the programme is coordinated in the State by a chief executive officer in a secretariat under the social investment programme popularly known as N-power, as well as the commissioner for education. The state Ministry of Education, the State Universal Basic Education Board and Ministry of Health collect data on general child health. The Local Government Education Authorities which are field offices of the State Universal Basic Education Board, Head teachers, Teachers, Teachers' Associations, are also involved in the administration of the programme. The programme is linked to agriculture with the aim of boosting food production and sales as well as providing employment for the people in the neighborhood of local areas that form catchment areas for the Elementary Schools.

The community food vendors are fully integrated into the well-structured supply chain through which local farmers provide them with the necessary food materials required for the meals. This does not only ensure cost-effectiveness, but ensures that the money expended sinks back into the State's economy and generates maximum multiplier effects on the people (Yunusa et al, 2012).

On the Quality of food and Students Academic Performance**,** Colby and Morley, (1981), stated that what we eat directly influences the brain, Kretsch (2001) showed further possibilities that quality of food has a role with affecting cognitive functioning. Studies have been done with school-aged children and point to a direct correlation between poor nutrition and lowered school performance. Iron reach food has also been shown to play an important role in brain function as well. Kretsch (2001), cited details from a study done with boys aged 7 to 17 that looked at iron and its effect on concentration.

Low scores on a concentration test corresponded with lowered levels of iron in the bodies of the subjects. A connection was made between low iron levels in children with attention span; children with iron deficiency anaemia have been shown to have short attention spans. Kretschl, (2001), also found that zinc reach food was another nutrient that had a role with cognition, specifically with Nutrition and Academic Performance and memory. In a test of mental function called verbal memory Wood, (2001), carried out a research and found that volunteers' abilities to remember everyday words slowed significantly only after three weeks of a low-zinc diet. Erickson (2006) pointed out five key components, based on research, required to keep the brain functioning correctly i.e. PCV. The substances, all found in food, are important to brain development and function

Florence and Michelle (2008), stated that children perform better on standardized tests when given adequate amount of food the day of the test. When schools can offer free or reduced lunch programs these may positively affect academics. However, Bowlby (1988), advices that food quantity and quality should be looked into and that children should be given right nutrients to enhance their growth, development and survival in the community. Ann (1986), confirms that human body functions best when supplemented by the right kinds of food in the correct proportion.

Food is a basic biological need, Maslow (1970) has emphasized that human beings have a hierarchy of needs ranging from lower level needs of food survival and safety to higher needs. So this should be provided before we can ask the children to be motivated to learn. Nutrients in food are like food that functions in a number of ways to keep the body healthy. The body should receive enough of each nutrient because foods also vary in their chemical composition (Adekunle, 2016).

Research Questions

The following research questions were formulated to guide the study:

1. Does the quality of food taken by primary school students impact their academic performance?
2. Does the quantity of food provided to primary school students impact their academic performance?
3. Does frequency of food provided to primary school students impact their academic performance?

Research Hypotheses

The following hypothesis were formulated and tested at 0.05 level of significance:

1. There is no significant impact between the quality of food taken by primary school students and their academic performance.
2. There is no significant impact between the quantity of food provided to primary school students and their academic performance.
3. There is no significant impact between the frequency of food provided to primary school students and their academic performance.

Theoretical Framework

The study is anchored on Abraham Maslow's Hierarchy of Need theory (1943). Maslow (1943), proposed the idea that all human beings had a hierarchy of needs hierarchy of human needs (HHN). Maslow believed that every human being had several layers of needs, beginning at the base each layer need must be met before someone can meet the needs of the next layer. The top need is the layer known as self-actualization. Maslow (1954) explained that his hierarchy was a five stage model and he said "the basic needs arrange themselves in a fairly definite hierarchy on the basis of the principle of relative potency." Therefore each stage is based on the way in which we as human beings develop.

Maslow's theory is applicable in an educational context and more specifically to children. All children have a set of needs that if met with the help of parents, friends and teachers can help mould a child and build a good foundation for adulthood. If there is a deficiency in the needs or any are neglected it can result in hindering a child's performance and behavior in school. If we break the hierarchy down into its five stages we can evaluate the impact they have in the lives of children and their learning.

The first stage is physiological needs, considering this stage in terms of a child we can see that just as adults do children require breathing, excretion, food, water and sleep. The other element of this stage is sex, but for a child this not yet relevant. Considering the need for sleep and food further we can see areas of this stage that can seriously affect how a child performs in school. Without a proper diet and reasonable amount of sleep children's concentration will decline and their minds will be focused on other things such as hunger. As a direct result of this the child will lack the energy required to actively participate in activities throughout the school day and this could affect their performance in the classroom. Problems such as these are often linked to children who come from troubled homes and many schools have set up initiatives to combat some problems that can affect the performance of children in school. School have introduced school feeding programmes where children can receive food before the school day for a cut price or free in some cases.

Once the physiological needs of a child are met they can move on to the second stage which concerns "safety. Moving on to the third stage of the hierarchy "belonging" this is the point where a child wants to feel loved and accepted in several areas of their lives. The fourth stage children seek to meet their needs for self-esteem. The final stage of the hierarchy of needs is "self-actualization" according to Sprenger (2008) self-actualization suggests that someone has achieved "what they were born to do. Maslow (1943), a child set goals for themselves and in some cases children aspire to achieve something later on in their life from a very young age.

Research Design

The study adopted descriptive survey design. The choice of this method is considered appropriate by the researcher because it will be used in the study to collect and analyze data from a few schools chosen as representative of the entire schools supposed to have been studied in Makurdi town. This design is also economical; it will enable generalization of findings. The population of the study consists of all the eight thousand seven hundred and seventy nine (8,779) primary school students of the ninety six (96) primary Schools within Makurdi town (SPEB 2017).

Nine hundred (900) primary school students and teachers were selected from ten primary schools within the study area. This sample size is considered adequate because following Wimmer and Dominick's (2000) recommendation, "a sampling rate of 10 percent or 20 percent is acceptable for the study of this nature". This sample size will enable the researcher save time and money.

Two sampling procedures: purposive sampling and simple random sampling techniques were adopted. The purposive sampling technique were adopted in selecting the public primary schools who are on the school feeding programme, while the simple random sampling were adopted in selecting the students in the research. Ten teachers were randomly selected to fill questionnaires. Observation schedule was conducted among the children. Therefore, these techniques were good as they met the various considerations that the study adopted in attaining the sample size.

The instrument for data collection was researchers self-developed structured questionnaire titled, *School Feeding Programme and Students Academic performance Questionnaire* (SFPASAPQ). The Questionnaire was used to solicit information from the respondents from the various schools. The reason for using questionnaires is that questionnaires are ideal for survey study and are widely used in education to obtain information about current conditions and practices and to make enquiries about attitudes and opinions quickly and in precise form (Mugenda, 1999). Moreover, the respondents were educated people who can read and write. The questionnaires had two parts: Part one deals with demographic information of the respondents, while Part 2 solicits information on the impacts of school feeding programme on the academic performance of primary school students. These were developed in the clusters according to the variables. The instrument was built on a four points rating scale with a response mode of Strongly Agree-^{4}, Agree-A^{3}, Disagree-D^{2} and strongly Disagree SD-^{1}.

The questionnaires were administered personally within the duration of four weeks; in areas where the researcher was conversant, she personally administered them to teachers. But in the other parts of Makurdi where the researcher was not conversant with the respondents, the questionnaires were issued to trained research assistants for effective administration and retrieval. Therefore, the data collection in this study was a face to face and hand to hand affair with the respondents. Retrieval rate was 100%

Method of Data Analysis

For proper understanding and evaluation of research questions raised and to ultimately achieve the research objectives, different techniques of analysis were employed, these include quantitative and qualitative techniques of data analysis. Data obtained through questionnaire was analyzed qualitatively using statistical tools such as table, frequencies and simple percentages. Also, the chi-square (x^2) test was employed to test the validity of the hypothesis and then meaningful conclusion were drawn. This was carried out using the chi-square formula;

$X^2 = \sum \frac{(O - E)^2}{E}$

Where O = Observed value
E = Expected value
X^2 = Chi Square
Σ=Summation
Df = degree of freedom
The test was done at 5% significance level with a degree of freedom given as:
V=(R–C) (C–1).
Where: R=the number of rows and
C=the number of columns

Conclusions were drawn based on the decision rule that accepts the null hypothesis (Ho). If the x^2 calculated is less than x^2 tabulated the null hypothesis will be accepted. On the other hand we shall reject the null hypothesis (Ho) if x^2calculated is greater than x^2 tabulated.

Data Presentation, Interpretation, and Discussion of the Findings

This section is concerned with data presentation, analysis, interpretation and discussion of findings. In an attempt to collect the necessary information from respondents, a total number of 900 questionnaires were distributed to a selected population of primary school teachers from ten selected primary schools sampled for the study. Due to the methodology used by the researcher in administering questionnaires and collecting same there was one hundred percent return rate. Therefore, the analysis presented here is based on the questionnaires returned.

In the presentation and analysis of data, the researcher made use of tables and simple percentages to answer the research questions, while Chi-square analysis were used to test the hypothesis at 0.05 level of significance. Thus, the formula for the simple percentage is as follows:

$$\text{Simple percentage} = \frac{\text{Number of respondents}}{\text{Total number of respondents}} \times \frac{100}{1}$$

Data Presentation and Interpretation

No.	Item Description	SA	A	D	SD	Total
1	Students are served with nutritious meals such as yam porridge, rice, beans porridge, eggs, beef and fruits	(42%)	(32%)	(15%)	(11%)	(100%)
2	School feeding encourages Punctuality among students	(26%)	(40%)	(21%)	(13%)	(100%)
3	School feeding has contributed to students' regular attendance in school	(38%)	(32%)	(19%)	(11%)	(100%)

4	There is an increase in students retention in school because of provision of meals	(55%)	(30%)	(7%)	(8%)	(100%)
5	School feeding has improved students performance in curricular and extra-curricular activities	(21%)	(13%)	(55%)	(11%)	(100%)

This section presents and interprets data to answer the three research questions and test the three hypotheses for the study.

Research Question 1: Does the quality of food taken by primary school students impact their academic performance?

Table 1 Shows impact of quality of food on academic performance of primary school students

Source: Field Survey (2018).

Table 1 indicates that 74% of the respondents agreed and strongly agreed that students are served with nutritious meals such as yam porridge, rice, beans porridge, eggs, beef and fruits, while 26% disagreed. 66% of the respondents agreed and strongly agreed that school feeding encourages punctuality among students, while 34% disagreed. Also 70% respondents agreed and strongly agreed that school feeding has contributed to students' regular attendance in school, 30% disagreed. Also 85% respondents agreed and strongly agreed that there is an increase in students retention in school because of provision of meals,15% disagreed. Finally, 34% of the respondents agreed and strongly agreed that school feeding has improved students' performance in curricular and extra-curricular activities, while 66% disagreed. On the average 67% of the respondents agreed that quality of food provided has impact on the academic performance of primary school students in Makurdi town, while 33% disagreed. This implies that quality of food provided has impact on the academic performance of primary school students in Makurdi town.

No.	Item Description	SA	A	D	SD	Total
6	Quantity of food served is enough for students to eat and be satisfied	(64%)	(11%)	(15%)	(11%)	(100%)
7	There is no central place for the pupils to take their meals	(38%)	(42%)	(13%)	(7%)	(100%)
8	Pupils have access to good source of water after meals	(57%)	(15%)	(17%)	(11%)	(100%)

9	The meals served do not reach out to some students because of insufficiency	(36%)	(38%)	(14%)	(12%)	(100%)
10	Students performance in class tests/ exams has to do with quantity of meal served in school	(42%)	(38%)	(9%)	(11%)	(100%)

Research Question 2: Does the quantity of food provided to primary school students impact their academic performance?

Table 2 Shows impact of quantity of food on academic performance of primary school students

Source: Field Survey (2018).

Table 2 indicates that 75% of the respondents agreed and strongly agreed that quantity of food served is enough for students to eat and be satisfied, while 25% disagreed. 80% of the respondents agreed and strongly agreed that there is no central place for the pupils to take their meals, while 20% of the respondents disagreed. 72% of the respondents agreed and strongly agreed that pupils have access to good source of water after meals, while 28% disagreed. 74% of the respondents agreed and strongly agreed that the meals served do not reach out to some students because of insufficiency, while 26% disagreed. Finally, 80% of the respondents agreed and strongly agreed that student's performance in class tests/exams has to do with quantity of meal served in school, and 20% of the respondents disagreed. In summary, 76% of the respondents agreed that quantity of food provided to primary school students impact their academic performance, while 24% disagreed. This indicates that the quantity of food provided has impact on the academic performance of primary school students in Makurdi town.

No.	Item description	SA	A	D	SD	Total
11	Proper frequency of School feeding Programs improves school performance	(42%)	(32%)	(15%)	(11%)	(100%)
12	Regular school meals improves children's ability to succeed at school	(53%)	(19%)	(17%)	(11%)	(100%)
13	Students served with meals twice perform better than those served with meals once	(49%)	(15%)	(18%)	(18%)	(100%)
14	Frequency of meals served to students has impact on their	(64%)	(36%)	(0%)	(0%)	(100%)

	academic performance					
15	Proper frequency of food provided to students increases physical activity leading to higher academic performance	(15%)	(21%)	(32%)	(32%)	(100%)

Research Question 3: Does frequency of food provided to primary school students impact their academic performance?

Table 3 Shows impact of frequency of food on academic performance of primary school students

Source: Field Survey (2018).

Table 3 indicates that 74% of the respondents agreed and strongly agreed that proper frequency of school feeding Programs improves school performance, while 26% disagreed. 72% of the respondents agreed and strongly agreed that regular school meals improves children's ability to succeed at school, while 28% of the respondents disagreed. Also 64% of the respondents agreed and strongly agreed that students served with meals twice perform better than those served with meals once, while 36% disagreed. 100% of the respondents agreed that frequency of meals served to students has impact on their academic performance, while none of the respondents disagreed. Finally, 36% of the respondents agreed and strongly agreed that proper frequency of food provided to students increases physical activity leading to higher academic performance, while 64% of the respondents disagreed. In summary, 56% of the respondents agreed that frequency of food provided to primary school students impact their academic performance, while 44% disagreed. This indicates that frequency of food provided has impact on the academic performance of primary school students in Makurdi town.

Table 4 Data, Analysis and Result on Hypothesis One

The data analysis and result on hypothesis one which states: There is no significant impact between the quality of food taken by primary school students and their academic performance.
The values in this data are obtained from the responses in table1above.

Table 4 Data shows Impact of quality of food on primary school students' academic performance.

Quality of food	1	2	3	4
Percentage	11	2330	36	
Respondents	97	211	264	328

X^2 = 44.8, df = 1. Table value at 0.05 significant level = 26.5

In the table above, the value of chi-square calculated is 44.8, while the table value is 26.5. Since the calculated value is greater than the table value, the hypothesis which states that: there is no significant impact between the quality of food taken by primary school students and their academic performance, is therefore not accepted with the conclusion that, there is a significant impact between the quality of food taken by primary school students and their academic performance.

Table 5. Data, Analysis and Result on Hypothesis two

The data analysis and result on hypothesis two which states: there is no significant impact between the quantity of food provided to primary school students and their academic performance.

The values in this data are obtained from the responses in table 2 above.

Table 5 Data shows Impact of quantity of food on primary school students' academic performance

Quantity of food	1	2	3	4
Percentage	1014	2947		
Respondents	90126	261423		

X^2 = 121, df = 1. Table value at 0.05 significant level = 85

In the table above, the value of chi-square calculated is 121, while the table value is 85. Since the calculated value is greater than the table value, the hypothesis which states that: there is no significant impact between the quantity of food provided to primary school students and their academic performance, is therefore not accepted with the conclusion that, there is a significant impact between the quantity of food provided to primary school students and their academic performance.

Table 6 Data, Analysis and Result on Hypothesis three

The data analysis and result on hypothesis three which states: There is no significant impact between the frequency of food provided to primary school students and their academic performance.

The values in this data are obtained from the responses in table 3 above.

Table 6 Data shows Impact of frequency of food on primary school students' academic performance

Frequency of food	1	2	3	4
Percentage	14	16	25	45
Respondents	126	144	225	405

X^2 = 72, df = 1. Table value at 0.05 significant level = 51

In the table above, the value of chi-square calculated is 72, while the table value is 51. Since the calculated value is greater than the table value, the hypothesis which states that: there is no significant impact between the frequency of food provided to primary school students and their academic performance is therefore, not accepted with the conclusion that, there is a

significant impact between the frequency of food provided to primary school students and their academic performance.

Hypotheses Testing: Testing of hypotheses is important since accepting or rejecting any hypothesis depends on the result of the test statistic.

Research Hypothesis 1: There is no significant impact between the quality of food taken by primary school students and their academic performance.

In this research, chi square test of significance is carried out using x^2– statistic i. e. converting the value of the correlation to a x^2 – value.

For this test, the following formula is used:

$$X^2 = \frac{(0—E)^2}{E}$$

Where 0= Observed value

E=Expected value

X^2 = chi square

Df= degree of freedom

@ 5% level of significance

This test instrument is used in testing all the hypotheses.

This test is carried out on hypothesis one with the following result:

Observed value =592 and 308

E=Expected value =450

X^2 = chi square =44.8

Df= degree of freedom =1

Table value at 0.05 significance level = 26

In view of the fact that calculated x^2 is greater than the table value, accounts for the earlier rejection of hypothesis one.

Research Hypothesis 2: There is no significant impact between the quantity of food provided to primary school students and their academic performance.

Observed value =684 and 216

E=Expected value =450

X^2 = chi square =121

Df= degree of freedom =1

Table value at 0.05 significance level = 85

In view of the fact that calculated x^2 is greater than the table value, accounts for the rejection of hypothesis two.

Research Hypothesis 3: There is no significant impact between the frequency of food provided to primary school students and their academic performance.

Observed value =630 and 270

E=Expected value =450

X^2 = chi square =72

Df= degree of freedom =1

Table value at 0.05 significance level = 51

In view of the fact that calculated x^2 is greater than the table value, accounts for the rejection of hypothesis three.

Discussion of the Findings

Based on the analysis of research questions and testing the hypotheses, the following findings were organized and discussed here for ease of understanding.

The first findings of this study revealed that quality of food provided have a significant impact on the academic performance of primary school students. This finding is in agreement with the views of Wolfe and Burkman (2000) who maintained that a meal that included food from several food groups was the best for a child who was expected to perform at his or her best in school, educationally and physically. Also in agreement with the findings is the study of Kretsch (2001) who observed that that what we eat directly influences the brain, also has a role in affecting the cognitive functioning.

The second findings of this study revealed that quantity of food provided have a significant impact on the academic performance of primary school students. This finding is in agreement with the study of Florence and Michelle (2008) who maintained that children perform better on standardized tests when given adequate amount of food on the day of the test. Also in line with the finding is the study of Adekunle, and Ogbogu, (2016), who maintained that schools that served more quantity of food to primary school students are found to perform far much better as compared with those who serve their children with less quantity of food.

The third finding of this study revealed that there is a significant impact between the frequency of food provided to primary school students and their academic performance. This finding is in agreement with the study of Teras (2005) who argued that proper frequency of food served to the primary school students improves performance and reduce absenteeism and tardiness, relieves hunger and improves children's ability to succeed at school, improves academic, behaviour and emotional functioning and leads to increased mathematics grades.

Summary

This research investigates impact of school feeding programme on the academic performance of primary school students in Makurdi town. Three research questions and three hypotheses guided the study. The literature review which was done under theoretical framework, Conceptual framework, empirical studies and summary of literature, identified the perceived impact of school feeding programme on primary school students academic performance. The population of this study comprised nine hundred primary school students sampled through purposive random sampling from the eight thousand seven hundred and seventy nine (8,779) primary school students of the ninety six (96) primary Schools within Makurdi town. A 15-item structured four points rating scale questionnaire constructed by the researcher titled, School Feeding Programme and Students Academic Performance Questionnaire (SFPASAPQ) was used for collection of data for the study. Data obtained for the study were analyzed using simple tables and percentages. Chi square (x^2) was used in answering the research questions. The chi square test significance was used for testing of the research hypotheses at 0.05 level of significance. The study finds that:

1. Quality of food provided has a significant impact on the academic performance of primary school students in Makurdi town.
2. Quantity of food provided has a significant impact on the academic performance of primary school students in Makurdi town.
3. Frequency of food provided has a significant impact on the academic performance of primary school students in Makurdi town.

Conclusion

Based on the findings of this study, it was concluded that poor food quality, low quantity of food and irregular provision of meals to primary school students has significantly impacted primary school students' academic performance in Makurdi town.

Recommendations

The study made the following recommendations:

1. That the primary school administrations and the school feeding programme developers should be sensitized on the need to ensure that food supplied to the primary school students is adequate and contain the nutritional value crucial for the growth and development of the primary school students.
2. That the community within the school that supply food to the primary schools be sensitized on the need to grow different types of food crops to meet the various dietary need o the students.
3. The primary school parents should endeavour to pay school fees in time for smooth management of the school feeding programme
4. The food should be prepared under hygienic conditions to avoid food poisoning among the primary school students.

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