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Full Length Research Paper

Challenges faced by teachers in implementing National School Nutrition Program in the Harry Gwala District, KwaZulu-Natal

Xolani Wycliff Zulu

School of Education, Durban University of Technology, 41/43 M L Sultan Rd., Greyville, Durban, South Africa.

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The purpose of the study was to explore the challenges experienced by teachers in their role in implementing the National School Nutrition Program in schools within the Harry Gwala District of KwaZulu-Natal. This article is extracted from a Ph.D. thesis that employed a qualitative research design, utilizing a sample of teachers who participate in the School Nutrition Program. Twelve schools were selected, with a total of twenty-four teachers purposively sampled—two teachers from each school, one of whom served as a nutrition coordinator. Data was gathered through individual interviews and document analysis. Ethical considerations were addressed before and during the data collection process, including informed consent, anonymity and confidentiality, voluntary participation, and the right to withdraw at any stage during the data collection process. The findings indicated that teachers faced challenges in implementing the program, such as service providers' compliance with delivery regulations, delayed payments to service providers, and the provision of insufficient and poor-quality food supplies. However, the nutrition program also benefited learners from poor backgrounds, reduced absenteeism, and increased school enrollment. These findings align with Maslow's hierarchy of needs, which suggest that provision should be made for meals at schools if learners do not receive adequate nutrition at home. Additional challenges identified included poor infrastructural development, insufficient time allocated for feeding, delayed payments to service providers, a lack of capacitybuilding workshops for teachers on the National School Nutrition Program, documentation requirements for learners as a condition for nutrition approval, school enrollment issues, and vandalism of utensils by learners. This study makes a meaningful contribution to the scholarship of education management and nutrition both within the country and globally.

Key words: National School Nutrition Program, department of basic education, teachers, service providers, learners, volunteer food handlers, challenges, program implementation.

INTRODUCTION

The objective of the National School Nutrition Program, as highlighted in the KZN-DOE-NSNP Draft Policy of May

2013, was to contribute to the improvement of the quality of education by enhancing primary school learners'

E-mail: XolaniZ1@dut.ac.za. Tel: 0716730550/0732236734.

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capacity for active participation, as well as their attendance and punctuality, through the temporary alleviation of hunger. Some objectives of the program were also shared in Gauteng Circular Number 29 of 2004, which indicated that the program was intended to improve knowledge about nutrition, perceptions, attitudes, and eating patterns among primary school learners (Del Rosso and Marek, 1996). Del Rosso and Marek (1996) also emphasized that one of the program's objectives was to enhance broader development initiatives, particularly in the areas of small enterprise development, economic empowerment, and combating poverty (Del Rosso and Marek, 1996). Additionally, they noted that the National School Nutrition Program was funded through a conditional grant to provinces according to the Division of Revenue Act (DORA) No. 71 of 2003, as well as other directives from the Department of Education and National Treasury (Del Rosso and Marek, 1996).

Mitchell (2003), in a study conducted in KwaZulu-Natal, argues that the educational and economic status of any country is closely linked to the health status and learner performance at school (Mitchell, 2003:45). This idea was also supported by Meaker (2008), who argue that improving nutrition and health can strengthen education, boost the economy, and ultimately improve pupils' living standards (Meaker, 2008:99). Many researchers have thus agreed that improved living standards may contribute to quality learning at school.

They also agree that the nutritional status of a learner may influence their ability to learn and actively participate in school activities. A study conducted by Mabuza (1997) in KwaZulu-Natal identified imbalances in the school nutrition program (Mabuza, 1997:68). He also found that schools in urban areas often report shortages in their food supplies, making it difficult to provide food daily (Mabuza, 1997:68). Meaker (2008), in her study conducted in KwaZulu-Natal, found that schools face challenges in implementing the program (Meaker, 2008:93). One of the challenges identified by Meaker (2008) was the variation in cooking facilities between schools. The researcher concurs with these findings, noting that cooking facilities in KwaZulu-Natal are often determined by the infrastructural development of a particular school (Meaker, 2008:93).

Among the challenges highlighted by Meaker (2008), inadequate water supply in schools is a significant issue (Meaker, 2008: 93). The researcher also agrees with Meaker (2008) that these are serious challenges that may negatively impact the implementation of the program. The shortage of basic equipment and utensils necessary for preparing food and serving meals during feeding hours also affects the success of the program (Meaker, 2008:68). A study conducted by Simeon and Grantham-Mcgregor (1989) found that providing nutrition education to parents, teachers, and feeding program administrators remains a challenge (Simeon and Grantham-Mcgregor, 1989:37). They also found that food

theft, poorly developed infrastructure, and impassable roads during rainy days hinder food delivery to schools.

Problem statement

The new government aimed to alleviate poverty and improve the health of learners in the Department of Basic Education through the introduction of the National School Nutrition Program. Another goal of the National School Nutrition Program was to enhance learning in the classroom, based on the belief that learners have a longer concentration span when they are not hungry. However, the implementation of the program faced several challenges. These challenges include poor infrastructural development, which made it difficult for teachers to effectively implement the program.

The time allocated for feeding by the Department of Education is considered one of the challenges teachers face in implementing the National School Nutrition Program, as they struggle to feed learners during the allocated break time.

Another significant challenge is the communication breakdown between NSNP teachers and service providers, which makes it difficult for teachers to address issues related to the program's implementation. Additionally, delayed payments to service providers by the Department of Education create further challenges, as delayed payments affect the procurement of foodstuffs for schools.

Insufficient capacity-building workshops for teachers have also contributed to the challenges, leaving teachers uncertain about their roles in the program's implementation. Learners' documentation as requirement for nutrition approval presents another challenge, as learners admitted to school without the necessary documents are not counted towards school enrollment but still need to benefit from the program. This has led to food shortages at schools because service providers procure food based on official enrollment numbers.

Vandalism of utensils by learners is another challenge faced by teachers in implementing the NSNP, and it has been identified as a key issue that results in the wastage of department funds.

Research question

Data were collected on the basis of the following question:

What challenges are experienced by teachers in implementing the objectives of the National School Nutrition Program?

METHODOLOGY

A qualitative design in the form of phenomenology was used

because it has a holistic focus and allows for flexibility, enabling a deeper understanding of the participants' experiences than could be achieved through a more rigid approach (Merriam, 2008:4). The study is descriptive in nature as it aims to describe the challenges faced by teachers in implementing the National School Nutrition Program. The researcher explored the challenges as they were experienced by the participants in the daily operations of the program.

Research paradigm

Any paradigm reflects the worldview the individual researcher constructs. It is the basic set of beliefs that guide actions or the framework that contains the researcher's epistemological, ontological, and methodological premises (Denzin and Lincoln, 1996:19). Paradigms act as perspectives that provide a rationale for research and commit the researcher to particular methods of data collection, observation, and interpretation (Blanche and Durrheim, 1999). Therefore, a paradigm is not only a worldview in philosophy but also frames the approach and methodology of inquiry.

To effectively explore the challenges teachers face in their role in implementing the National School Nutrition Program, the author entered the social world of the participants and engaged in the coconstruction of knowledge through a series of semi-structured interviews between myself and the participants. Working within the constructivist paradigm was appropriate because it afforded me the opportunity to enter different contexts to discover the challenges school teachers experience in implementing the National School Nutrition Program.

This article exemplifies qualitative research, with the goal of explaining how teachers understand the challenges they face in their day-to-day roles in the National School Nutrition Program. This research acknowledges the challenge posed earlier, with the methodology designed to allow the rich stories of individuals and groups (teachers) to be told, thereby facilitating the construction of knowledge between the researcher and the participants. Therefore, the essence of this study lies in the construction of knowledge using semi-structured interviews between the researcher and the participants, situated within the constructivist paradigm.

Research design

A research design is a plan or strategy that underpins philosophical assumptions by specifying the selection of respondents to be used by the researcher during the study and by developing instruments and procedures to help collect the data (Maree, 2007:70). The design is selected and followed by the researcher to answer the research questions (Johnson and Christensen, 2008:305). There are three types of qualitative research designs that may be used to collect data, and the choice depends on the research problem and the research questions the researcher seeks to answer. The problem being investigated in this study lent itself to a qualitative research design, which was also supported by the nature of the research question. MacMillan and Schumacher (2010) highlighted that such qualitative research designs include phenomenology, ethnography, case study research, grounded theory, and historical research. In this study, the researcher preferred to use phenomenology since the typical technique involves conducting long interviews with informants aimed at understanding their perspectives on their everyday lived experiences with the phenomenon (MacMillan and Schumacher, 2010:26).

Population and sample

Purposeful sampling was used to select information-rich

participants.

The criteria for selection required that participants be teachers involved in the daily operations of the National School Nutrition Program. Participants were sampled from both primary and secondary schools within the Harry Gwala District of KwaZulu-Natal, across various circuits of the uMzimkhulu Circuit Management Centre.

Data collection

Data were collected through individual interviews and document analysis. Twelve schools were selected, with a total of twenty-four teachers purposively sampled—two teachers from each school, one of whom served as a nutrition coordinator. Teachers were interviewed separately and on an individual basis in all selected schools until the data collection process was complete. In this study, document analysis was also used as a data collection method. The researcher examined documents such as school management team minutes (on NSNP), school governing body meeting minutes (on NSNP), circulars from the Department of Basic Education's nutrition sub-directorate, and principals' diaries containing nutrition information gathered during meetings with NSNP DOE officials. The researcher also recorded the interviews with participants and subsequently created written records or transcripts of what was said for the purpose of data analysis (McMillan and Schumacher, 2010).

Data analysis

One of the challenges identified by the researcher and reported by the teachers who participated in this study was the delayed payment of service providers by the Department of Basic Education. This delay can lead to poor services rendered by the service providers at schools, negatively impacting the overall implementation of the NSNP. The non-payment of service providers also means that volunteer food handlers may not be compensated, which further hinders the program's execution. This issue affects the ego, or esteems needs, as described by Maslow's theory of motivation, which emphasizes the need for respect and esteem from others. These needs (level 4) include self-confidence, independence, freedom, recognition, appreciation, and achievement (Mwamwenda, 1995:265). Using this theory as a foundation, the researcher believes that the Department should recognize and appreciate the work done by service providers through timely remuneration, which would motivate them to perform their duties to the best of their ability.

Poor infrastructural development as a challenge to NSNP implementation

Infrastructural development was perceived as one of the challenges in some schools visited by the researcher. Teachers complained about the environment in which they implement the nutrition program; for example, poor kitchen facilities were seen as detrimental to the health of learners. These facilities were described as failing to meet the hygienic requirements stipulated in the policy of the Department of Basic Education. Paragraph 6.4.1 (a) and (b) of the KZN-DOE NSNP Draft Policy of 2013 states that schools must ensure that all NSNP food items are kept in a safe, proper, and healthy environment. The policy also specifies that storage facilities for NSNP food items should be in a well-ventilated room. Paragraph 6.4.2 (c), (d), and (e) further specifies that food should be prepared in covered areas that are free from dust and wind, in clean environments that are free from pests, and that proper hygiene practices must be followed at all times when preparing food

for learners (KZN-DOE NSNP Draft Policy, 2013:23). This is supported by Kidiku (2001), who posits that proper food hygiene practices must be adhered to in order to prevent foodborne diseases that could affect learners targeted by the NSNP (Kidiku,

As highlighted in the theoretical framework of the main study, environmental factors are associated with the safety needs described in Maslow's hierarchy of needs, which emphasizes protection from physical and emotional harm. This is determined by the nature of the environments as described earlier. Esteem needs are also part of motivation, involving competence, recognition, and attention (Adiele and Abraham, 2013:142). This is relevant to this study, as the role of teachers in the NSNP needs to be recognized. Teacher 1 in School 7 made the following comment:

Schools should be given money, schools should have its own utensils, and schools should be provided with safe and proper kitchen to cook food in a healthy and conducive environment.

Since uMzimkhulu is a deep rural area, some schools still have poorly developed structures with poor cooking facilities which may impact negatively on the health of learners.

Insufficient time allocated to feeding

In this study, the researcher also examined the time allocated for feeding; aiming to demonstrate that time is a key determinant of a successful feeding process at school. Some teachers reported confusion regarding the feeding time and duration. However, the KZN-DOE NSNP Draft Policy of 2013 clearly states that learners in all schools should be fed by 10:00, in accordance with the Grant Framework. The policy further dictates that feeding should follow the stipulations of the policy document, including adherence to the schedule, delivery time, prescribed menu, specifications of the food products as outlined in the operational guidelines (KZN-DOE NSNP, 2013:23). This policy is explicit, and the Department of Basic Education and the nutrition sub-directorate are responsible for monitoring both service providers and teachers to ensure compliance with the policy document, thereby facilitating effective implementation and management of the NSNP. When Heads of Departments (HODs) were asked about their perceptions of the time allocated for feeding, their responses led the researcher to explore some policy documents related to the National School Nutrition Program. Teacher 1 from School 12 made the following comment:

The time allocated to feeding according to my school is not clear cut, there is no specific time because they say in the morning but in the morning, we are still conducting our periods.

Teacher 1 in School 12 continued to say:

The department must give a clear direction that says let us do this, between this time, it must be uniform between all levels of the department say 10H00-11H00, it must be a national policy.

The statement made by Teacher 1 in School 12 earlier, clearly indicates that there is a lack of communication among stakeholders in terms of departmental policies, and this clearly suggests the Department of Basic Education nutrition sub-directorate needs to put more effort into conducting workshops on NSNP. Teacher 1 in School 7 made the following argument:

The morning session is good because learners leave their homes without eating any food.

On that note, the researcher noticed that teachers had different

perceptions about the time allocated to feeding. As the Teacher I indicated in earlier, the feeding process is determined by the number of learners enrolled in a particular school. Teacher 1 in School 10 had this to say:

Thirty minutes is enough, feeding is done successfully in our school

Teacher 1 in School 6 shared the following sentiment and made this argument:

It is a short time, if it is possible, it might be extended a little bit more by roughly fifteen minutes, it would be just fine.

Some teachers made confusing statements according to the policy; every school is supposed to have a general feeding calendar which was distributed to schools by provinces through district officials. Teachers 1 in School 9 made the following explanation:

Time is good because some learners come to school with empty stomachs; there are disturbances in class as this feeding is done during teaching periods.

Teacher 1 in School 1 responded this way:

It is not enough feeding time allocation only thirty minutes for all grades that is Grade R-09.

The perception by Teacher 1 in School 1 suggests that time allocated to is not sufficient in schools with large learner enrolments and this interferes with their role to monitor learners during feeding time. Teacher 1 in School 3 in that regard had this to say:

I am happy with time because the nutrition programme is equivalent to the number of learners in my school.

Teacher 1 in School 2 made the following comment:

Feeding time is correct for the learners, but for the teachers, it interferes with the teaching time.

These comments have left more questions than answers for the researcher because feeding process constitutes part of the daily activities that are included in the school timetable along with daily operations of the school. One of the challenges highlighted by teachers is the challenge that is faced during feeding time in secondary schools with big learner enrolments. The NSNP coordinator in one of those secondary schools highlighted that thirty minutes is not sufficient to feed their learners due to long gueues in the kitchen. When asked about time allocated to feeding, Teacher 1 in School 4 argued that:

Thirty minutes is not enough for all learners; at least an hour will be recommended due to the number of learners at our school unless the DBE may hire more volunteer food handlers.

Learner's documentation as a nutrition approval requirement

One of the challenges faced by teachers in implementing the NSNP in the Harry Gwala District is that learners often lack birth certificates or ID numbers. This is a significant issue because if learners are submitted to the EMIS section without ID numbers, they are not counted towards school enrollment and for NSNP approval. This presents a serious challenge for teachers, as they are required to provide all learners with an equal share during feeding, even those not covered by the Department of Basic Education (DBE) program. The researcher considers this an immediate cause of food shortages in many schools. Consequently,

this issue leads to conflict and misunderstandings between service providers, principals, and nutrition committees. When teachers were asked about their role in ensuring that all learners benefit from the program, Teacher 1 in School 8 made the following comment:

Firstly, I ensure that all learners have ID numbers so that they are catered for in the nutrition programme.

This is a challenge that needs to be addressed by the Department of Basic Education and Department of Home Affairs.

A challenge of vandalizing utensils by learners during feeding time

One of the challenges indicated by the teachers was the challenge of vandalism where learners destroy the dishing up utensils in their school which ultimately impacts negatively on the funds of the school. This challenge was highlighted by Teachers 1 in School 1 who made the following comment:

First of all, what I do in my phase as a teacher is to write letters to the parents to assist the school with required resources and because of high level of vandalism we buy plates and spoons for them.

In addition to the aforementioned, Teacher 1 in School 1 said:

You only find out that by March to April they have been stolen or lost.

Delayed payment of service providers by DBE is a challenge in implementing NSNP

One of the challenges identified by the researcher and reported by the teachers participating in this study was the delayed payment of service providers by the Department of Basic Education. This delay can lead to poor services rendered by service providers at schools and negatively impact the overall implementation of the NSNP. The non-payment of service providers also means that volunteer food handlers are not compensated. This situation affects the ego, or esteems needs, as described by Maslow's theory of motivation, which emphasizes the need for respect and esteem from others. These needs (level 4) include self-confidence, independence, freedom, recognition, appreciation, and achievement (Mwamwenda, 1995:265). Based on this theory, the researcher believes that the Department needs to recognize and appreciate the work done by service providers through timely remuneration, which would motivate them to perform their services to the best of their ability. Teacher 1 in School 10 gave the following explanation:

I am concerned about the standard and quality of food because their main aim is to make a profit.

Teacher 1 in School 10 continued to say:

Sometimes they bring food that has expired

The researcher felt that the Department of Basic Education may be the cause of the poor services and the challenges.

Ethical considerations

Permission to conduct research was obtained from the KwaZulu-Natal Department of Basic Education and from Principals of schools selected for the research. Obtaining permission from Principals of twelve selected schools was a long and difficult process. Nevertheless, permission was granted to me to conduct a study. The participants were informed from the beginning of data collection process that their participation was voluntary and that they may withdraw at any stage without any penalty. No names were mentioned in any transcriptions in order to protect privacy and identity.

RESULTS

The themes that reflected the challenges that emerged within the school context are: Uncollaborative appointment of service providers. This created a major tension and misunderstanding between the school managers and the department of basic education.

Poor infrastructural development versus the National School Nutrition Program

Infrastructure is a fundamental factor in the effective implementation of the school nutrition program. Poor infrastructural development in schools can significantly interfere with the smooth operation of the program. Many schools in the Harry Gwala District face challenges related to inadequate infrastructure. For example, there are no properly established kitchens for food preparation; instead, food is often prepared in makeshift structures or poorly equipped kitchens where hygiene is compromised. This situation violates the requirements set by the Department of Health, which mandates that food must be prepared in a clean and healthy environment. In these makeshift kitchens, food can be contaminated by rats and exposed to bacteria. The conditions are insufficient to properly store perishable items. This presents a challenge for teachers, who cannot guarantee the food security of learners or ensure that they are served healthy food.

Time allocated for feeding as barrier to NSNP implementation

Most schools visited by the researcher reported that the time allocated for feeding is insufficient to cover the entire process. Some schools in the district have high enrollments, while others have more manageable numbers of learners.

In schools with a large number of learners, teachers face challenges in monitoring the feeding process until break time or the designated feeding time has expired. This situation disrupts the smooth running of the instructional program, as teaching time is affected by the feeding process. It is believed that learners perform better academically after receiving food. Teachers indicated that the time allocated for feeding is inadequate and that more time is needed to achieve the program's objectives. In contrast, schools with manageable enrollments reported no challenges with the feeding time.

Learner's documents as a barrier to nutrition

According to the Department of Basic Education's policy, learners must be fully documented before registration. Only learners with complete documentation are counted for enrollment purposes, and nutrition approvals for schools are based on this enrollment data. This policy poses a challenge in many deep rural schools in the Harry Gwala District in KwaZulu-Natal, where a significant number of students lack proper documentation but still benefit from the school nutrition program. Teachers are required to feed all learners at school, which often leads to food shortages. This issue was highlighted by teachers in the district as a significant challenge.

Vandalism of school utensils by learners

Most schools in the district reported that learners are destroying utensils used for the school nutrition program. This results in significant losses for schools, as feeding materials are procured using departmental funds. The damage creates chaos and disorder in the implementation of the program. To address this issue, teachers reported that learners are now required to bring their own feeding utensils to minimize the vandalism of school equipment. Teachers also mentioned that they have to patrol the school premises after collecting feeding materials, which is a strenuous task and disrupts their instructional programs.

Delayed payment of service providers by the department of basic education

Service providers were responsible for purchasing and delivering food to schools, a process dependent on the timely payment of service providers by the Department of Basic Education. Teachers highlighted a challenge with the department's frequent delays in paying service providers. This delay significantly affects implementation of the program, as service providers need timely payments to purchase and deliver food items to schools. Additionally, poor delivery performance by service providers, often caused by delayed payments from the department, negatively impacts the program. As a result, learners sometimes do not receive food due to these delivery failures.

DISCUSSION

The study found that poor infrastructural development in schools within the Harry Gwala District posed a significant challenge to implementing the National School Nutrition Program (NSNP). It was discovered that the environments where learners' food is prepared lack proper hygiene and healthy conditions, which violates

health department policies. Healthy food preparation requires a clean environment, which is not always present in some deep rural schools in the district.

The study also revealed that the time allocated for feeding by the Department of Basic Education is insufficient to cover the entire feeding process. Schools with higher enrollments are negatively affected as their instructional time is disrupted by the feeding process. Teachers reported that they do not have time for tea breaks because their time is consumed by monitoring learners during feeding.

Additionally, the study found that some learners in deep rural schools are not profiled or documented, but they still benefit from the NSNP, leading to food shortages during feeding times. The vandalism of school utensils by learners was also identified as a problem, leading teachers to suggest that learners should bring their own dishes.

Another significant issue was the delayed payment of service providers by the Department of Basic Education, which affects the timely payment of volunteer food handlers and disrupts the entire feeding process. Insufficient funds due to these delays made food deliveries more challenging. Overall, the study concluded that these challenges hinder the achievement of the NSNP's objectives.

Conclusion

The study discovered a significant gap in addressing the challenges faced by teachers in their role of implementing the National School Nutrition Program (NSNP), which is a major initiative of the Department of Basic Education. The identified challenges—poor infrastructural development, insufficient time allocated for feeding, delayed payment of service providers, lack of proper documentation for learners as a requirement for nutrition approval, and vandalism of school feeding utensils—must be addressed by the Department to ensure the smooth running of the program and enable teachers to achieve its objectives.

RECOMMENDATIONS

Establishment of proper kitchens at school

Since the study discovered that schools in the deep rural areas of Harry Gwala have poorly developed infrastructure, it is therefore recommended that department of basic education should allocate enough funds for schools to establish well established kitchens that are conducive to preparing food for learners.

Expansion of time allocated to feeding

The study also discovered that the time allocated to feeding is a significant challenge affecting the

instructional program. It is recommended that the Department of Basic Education allocate feeding time based on the enrolment size of each school. The time allocated should not be uniform across all schools, as some schools with manageable enrolment can feed their learners on time with the current allocation.

Self-reliance on feeding utensils

Since the study discovered that vandalism of school utensils by learners during feeding time negatively impacts departmental school funds, it is recommended that learners bring their own feeding dishes. This approach would help schools save departmental funds and reduce the stress associated with moving around the school premises to collect feeding utensils.

Learners should have all necessary documents for registration

The study found that in deep rural schools of Harry Gwala, there were learners who were not registered due to missing required documents. It is recommended that schools do not admit learners without the necessary documents to avoid challenges related to food shortages during feeding time.

Service providers should be paid on time

One of the challenges identified by the study is the delay in payments to service providers by the Department of Basic Education, which affects their ability to provide food to schools and pay Volunteer Food Handlers on time. The study recommends that the Department of Basic Education ensure timely payments to service providers to achieve the objectives of the National School Nutrition Program.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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REFERENCES

- Adiele EE, Abraham AB (2013). The Achievement of Abraham Maslow's Needs Hierarchy Theory among Teachers: Implications for Human Resource Management in the Secondary School System in Rivers State. Journal of Curriculum and Teaching 2(1):140-144.
- Del Rosso JM, Marek T (1996). Class action: improving school performance in the developing world through better health and nutrition. World Bank Publications.
- Denzin NK, Lincoln YS (1996). Handbook of qualitative research. Journal of Leisure Research 28(2):132.
- Meaker J (2008). An Observational Cross-Sectional Investigation of Food-Service Management and General Management Practices in Schools Running the National School Nutrition Programme (NSNP) in the Formal and Informal Urban Areas of Pietermaritzburg, KwaZulu-Natal, South Africa: Ph.D. Thesis, University of Stellenbosch.
- Johnson RB, Christensen L (2019). Educational research: Quantative research qualitative and mixed approaches. Sage publications.
- Kidiku AMA (2001). Training Manual for Environmental Health Officers on Safe Handling Practices for Street Foods conducted for Food and Agriculture Organization (FAO) of United Nations (P 17). Rome TCP/SAF/8924 (A)
- KwaZulu-Natal (2013). Department of Education. National School Nutrition Programme. Draft Policy. Ulundi: KZN Department of Education.
- Mabuza LOK (1997). The Primary School Nutrition Programme (PSNP): Assessing the allocation of Funding in KwaZulu-Natal, 1995/96. (Doctoral dissertation).
- Marre K (2007). First Steps in research. Thousand Oaks: Sage.
- McMillan JH, Schumacher S (2010). Research in education: Evidenced-based inquiry. Pearson.
- MacMillan JH (1996). Educational research: Fundamentals for the consumer. HarperCollins College Publishers, 10 East 53rd Street, New York, NY 10022; World Wide Web: http://www. Harper collins. Com/college.
- Mitchell A (2003). School Feeding: now more than ever. Food, Nutrition and Agriculture 33(2):6-12.
- Mwamwenda TS (1995). Educational Psychology. An African Perspective. 2nd edition. Durban: Butterworth Publishers.
- Simeon DT, Grantham-Mcgregor S (1989). Effects of missing breakfast on the cognitive functions of school children of differing nutritional status. American Journal of Clinical Nutrition 49(4):646-653.