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Development and implementation of a school-based health promotion intervention in a resource-constrained community

by

CHRISTINA J. BOTHA

Submitted in partial fulfilment in accordance with the requirements for the degree

PHILOSOPHIAE DOCTOR

(Educational Psychology)

in the

Department of Educational Psychology

Faculty of Education

University of Pretoria

**Supervisor**

Prof Ronél Ferreira

PRETORIA

May 2022

I dedicate this thesis in loving memory to my late husband, Paul Francois Botha. I am forever grateful for the gift of your unconditional love. Through this long and sometimes very lonely journey, you were my rock and strength. I will hold you in my heart forever and always.

(02-10-1971 – 31-07-2018)

DECLARATION OF ORIGINALITY

I, Christina J. Botha (student number 98008995), declare that the thesis, which I hereby submit for the degree Philosophiae Doctor at the University of Pretoria in the Department of Educational Psychology, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.
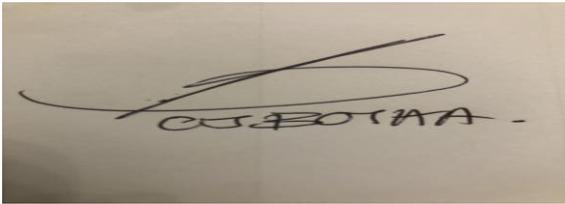
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INVESTIGATOR	Ms Christina Johanna Botha
DEPARTMENT	Educational Psychology
APPROVAL TO COMMENCE STUDY	30 October 2012
DATE OF CLEARANCE CERTIFICATE	17 March 2022

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ETHICS STATEMENT

The author, whose name appears on the title page of this dissertation, has obtained, for the research described in this work, the applicable research ethics approval. The author declares that she has observed the ethical standards required in terms of the University of Pretoria's Code of ethics for researchers and the Policy guidelines for responsible research.
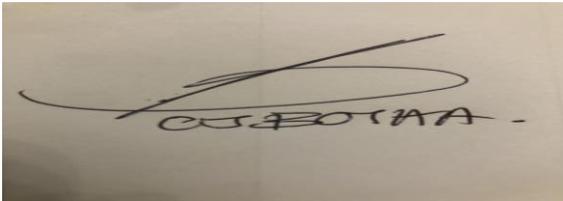
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DECLARATION FROM LANGUAGE EDITOR

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29 March 2022

TO WHOM IT MAY CONCERN

I, the undersigned, hereby declare that the doctoral thesis titled **Development and Implementation of a School-based Health Promotion Intervention in a Resource-constrained Community** by **Christina J. Botha** has been edited.

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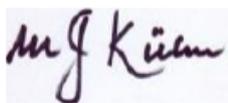
Prof. Tinus Kühn

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To my Creator who has carried me through the journey of life with boundless grace and mercy: God, thank you for being a lamp to my feet and a light to my path. Thank you for all your blessings to me and my family. Thank you for carrying me through the hard times and never leaving me.

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ABSTRACT

The purpose of the study was to develop and implement a health promotion intervention with the aim to improve learners' knowledge and skills on healthy eating habits by offering them an enriched curriculum. The Wellness in Lifestyle, Intake, Fitness and Environment (Win-LIFE) intervention focused on positive change in terms of healthy food choices, production, preparation and consumption. The intervention was developed after exploring parents' and teachers' perceptions and consulting experts in the field of education and nutrition-related research. The investigation was undertaken against the background of the national school curriculum, with the aim of enriching the Grade 4 to 6 content of the subjects Life Skills, Natural Sciences and Technology.

I implemented qualitative research and utilised Interpretivism as the epistemological paradigm. I applied a multiple case study research design, while data was generated and documented through PRA-guided activities in a focus group, semi-structured interviews, observation, field notes, a reflective journal and audio-visual techniques. Through thematic analysis of the data, three main themes and related sub-themes emerged. The first theme relates to aspects that were to be considered during development of the Win-LIFE intervention. The second theme speaks to the goal-driven development of the Win-LIFE intervention and the third theme comprises the implementation of the Win-LIFE intervention.

The findings of the study indicate that schools fulfil a critical role in health promotion initiatives. The community where the study was undertaken specifically required a health promotion intervention that could be facilitated by schools while accentuating healthy food consumption and nutrition-related practices to support learners, parents and the wider community. Based on the findings of my study, I can conclude that the Win-LIFE intervention was successful in enriching the CAPS and that the PRA approach that was followed supported the development and implementation of the intervention. It is important not only to tailor-make an intervention according to the needs of the target audience but also to consider the needs and preferences of the facilitators, and involve key role-players when implementing the intervention, such as parents in the case of a school-based intervention.

KEY CONCEPTS

- ❖ Development of a school-based health promotion intervention
- ❖ Enriched school curricula
- ❖ Grade 4 to 6 Life Skills curriculum
- ❖ Grade 4 to 6 Natural Sciences and Technology curriculum
- ❖ Health promotion intervention
- ❖ Implementation of a school-based health promotion intervention
- ❖ Participatory Reflection and Action (PRA)
- ❖ Resource-constrained community
- ❖ School-based interventions
- ❖ Wellness in Lifestyle, Intake, Fitness and Environment (Win-LIFE) intervention

LIST OF ABBREVIATIONS

- ❖ Agricultural Research Council (ARC)
- ❖ Care and Support for Teaching and Learning (CSTL)
- ❖ Curriculum and Assessment Policy Statement (CAPS)
- ❖ Department of Agriculture, Forestry and Fisheries (DAFF)
- ❖ Department of Basic Education (DBE)
- ❖ Food and Agricultural Organisation (FAO)
- ❖ Institute for Food, Nutrition and Wellbeing (IFNuW)
- ❖ International Fund for Agricultural Development (IFAD)
- ❖ Gauteng Department of Basic Education (GDBE)
- ❖ Institute for Food, Nutrition and Well-being (IFNuW)
- ❖ Integrated School Health Policy (ISHP)
- ❖ Millennium Development Goals (MDGs)
- ❖ National School Nutrition Programme (NSNP)
- ❖ Non-governmental organisation (NGO)
- ❖ Participatory Reflection and Action (PRA)
- ❖ South African National Health and Nutrition Examination Survey (SANHANES-1)
- ❖ Sustainable Development Goals (SDGs)
- ❖ United Nations Children Fund (UNICEF)
- ❖ Wellness in Lifestyle, Intake, Fitness and Environment (Win-LIFE)
- ❖ World Food Programme (WFP)
- ❖ World Health Organisation (WHO)

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOGRAPHS

CHAPTER 1
INTRODUCTION TO THE STUDY

1.1   INTRODUCTION AND BACKGROUND TO THE STUDY

This doctoral study forms part of a broader research project that was funded by the Institute for Food, Nutrition and Well-being (IFNuW) of the University of Pretoria and the Multotec Group. The broader research project commenced in 2013 and focused on the potential role of schools as sites for social change that may facilitate adjusted behaviour within resource-constrained communities. More specifically, the project investigated the development, implementation and potential effect of a school-based health promotion intervention (Win-LIFE[1]) on a resource-constrained community's practices related to food choice, food preparation and food production. It was assumed that if learners are knowledgeable in terms of the importance of nutrition and positive lifestyle behaviour, they have the potential to share their knowledge with other family members and subsequently facilitate change in their community.

The broader research project was guided by the Millennium Development Goals (MDGs) and Sustainable Developmental Goals (SDGs). The MDGs (United Nations, 2013) and the SDGs (United Nations, 2020) identified health promotion interventions, such as the one reported on in this thesis, as important strategies in ensuring adequate school-based nutrition, universal primary education and improved access to social support in the following years. According to Sumner, Hoy and Ortiz-Juarez (2020, p. 3), "more than 700 million people still live in extreme poverty" in 2020. More specifically, Sub-Saharan Africa was the only region where more than half of the population still lived on less than 1.90$ a day at the time of the 2020 report, and where the number of people living in extreme poverty increased by 71 million due to COVID-19.

Closely aligned, one of the long-term aims of the broad research project was to facilitate change that may improve collective health and well-being through the development and implementation of a health promotion intervention (Win-LIFE) that

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[1] Wellness in Lifestyle, Intake, Nutrition and Environment

could address household food and nutrition insecurity, psychosocial well-being and environmental sustainability. The Win-LIFE intervention more specifically aimed to achieve this through enrichment of the current South African Grade 4 to 6 Intermediate Phase school curriculum for Natural Sciences and Life Skills, and to assist participating schools in becoming inclusive "hubs of learning, care and support" (Department of Basic Education & MIET Africa, 2010, p.4). Following the implementation of the intervention, the effect of the Win-LIFE intervention was investigated by a fellow doctoral student[2]. The potential exists for an adapted version of the intervention to be transferred to other schools in similar contexts.

According to the South African National Health and Nutrition Examination Survey (SANHANES-1) (Shisana et al., 2014) almost 46% of the overall South African population was food secure, nearly 29% was at risk of hunger and 26.1% experienced hunger, being food and nutrition insecure at the time of the survey and the development and implementation of the intervention that I report on. The largest group of people that experienced food and nutrition insecurity resided in informal and resource-constrained communities. Black South Africans experienced the highest prevalence of food and nutrition insecurity (31%), followed by the Coloured community (12,9%). To this end the SANHANES-1 (Shisana et al., 2014) highlights the importance of ongoing research and support by the South African Government, emphasising the need for sustainable health promotion interventions.

Literature of both scientific and non-scientific origin indicates the vast impact of malnutrition, non-communicable diseases, food and nutrition insecurity, as well as hunger within Sub-Saharan Africa. These challenges have over recent years been recognised as critical developmental challenges in this region (United Nations, 2000; 2013; 2015). As a result, scholars and practitioners are required to take hands in addressing this global challenge on international, national, provincial (regional) and local (district-based) levels. The need to provide interdisciplinary services is globally recognised by governments as a major objective within the public health sector (Gannon-Leary, Baines & Wilson, 2006; El Ansari & Phillips, 2001; El Ansari, 2012). Interdisciplinary community coalitions have consequently become the norm for development within the field of public and community-wide health promotion, health

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[2] Ngwenya, M.D. 2018. *Evaluation of a school-based health promotion intervention in a resource-constrained community.* Unpublished PhD thesis. Pretoria: University of Pretoria

education and disease prevention (Erwin, Blumenthal, Chapel & Allwood, 2004; El Ansari, 2005; El Ansari, Oskrochi & Phillips, 2009).

In interdisciplinary partnerships, communities, academics from different disciplines, health services and public or private agencies engage with one another to improve community-wide health and collective well-being. Stakeholders accordingly invest their ideas, experiences and skills to address health-related challenges through joint decision-making and action (El Ansari, Oskrochi & Phillips, 2009). Given the emphasis by the South African Government and global initiatives to promote nutritional status as well as household food and nutrition security, and to decrease the prevalence of non-communicable diseases, it seems imperative to focus on the development, implementation and outcome of community school-based health promotion interventions in resource-constrained communities, in collaboration with community members (Faber, Witten & Drimie, 2010).

Although numerous school-based physical lifestyle and health promotion interventions have been developed and implemented in vulnerable contexts, limited evidence can be found on the development and detail of such interventions in the Sub-Saharan African and South African contexts (Draper, Kolbe-Alexander & Lambert, 2009; Naidoo, Coopoo, Lambert & Draper, 2009). Available studies typically describe the outcomes of interventions, with little explanation of the manner and processes involved during development and implementation (Draper, De Villiers, Lambert, Fourie, Hill, Dalais, Abrahams & Steyn, 2010). A study with this focus has the potential to add knowledge in terms of lessons learnt, and ultimately guide the transference of interventions to similar contexts. The current study aimed to address this identified need by explaining the development and implementation of a school-based health promotion intervention (Win-LIFE) in a resource-constrained community, where the intervention had the purpose to address some of the above mentioned challenges faced by resource-constrained communities. The initial implementation of the Win-LIFE intervention involved 24 teachers at three participating primary schools in the Bronkhorstspruit area, South Africa that were trained to implement an enriched curriculum in the form of the Win-LIFE intervention to 1 465 Grade 4 to 6 learners, as part of the Life Skills and Natural Sciences school curricula.

1.2 RATIONALE FOR FOCUSING ON A SCHHOL-BASED INTERVENTION WITHIN A RESOURCE-CONSTRAINED COMMUNITY

Health promotion interventions accentuate the important role of individuals, communities and organisations as action-oriented agents during the formulation of health promotion practices and policies, with the aim of enhancing general well-being and quality of life (Crosby, Kegler & DiClemente, 2008; Stokols, 1995). An important advantage of delivering health promotion interventions at community level thus relates to the possibility of positive change in behaviour and beliefs (Crosby et al., 2008). Health promotion interventions may furthermore be proactive and can equip community members with the necessary knowledge and skills to identify available assets to cope with community-wide health-related challenges. The promotion of school-based community-related health and collective well-being is a central feature of Community Psychology (Visser, 2012) that forms part of the overarching ethos of the conceptual framework I compiled for my study (Consult Chapter 2).

Earlier approaches to health promotion primarily emphasise the medical treatment of diseases. However, these approaches have been replaced by strength-based, preventative, enabling and community-oriented approaches to promote health, together with personal, relational and collective well-being (Prilleltensky, 2005). This implies a paradigm shift away from interventions aimed at changing individuals' health-related behaviour towards comprehensive ecological interventions that can address the interdependence between socio-economic, cultural, environmental, psychological and biological determinants of health (Stokols, Allen & Bellingham, 1996). In this regard, Warwick, Mooney and Oliver (2009) indicate that successful health promotion interventions typically build on existing health-related community-wide needs, concerns and perspectives of community members, are responsive to aspects such as gender, age and vulnerability, are interactive and practice-based in nature, and may enable participants to acquire health-related knowledge and skills.

Over the last three decades, researchers, policy makers and health educators have increasingly emphasised the institutionalisation of health promotion through Nutrition Education and the improvement of the collective well-being of all learners in schools (Department of Health, 1997; Department of Education, 2000, 2001; Levine, Olander, Lefebvre, Cusick, Biesiadecki & McGoldrick, 2002; Department of Education, 2004;

Department of Basic Education, 2010; Departments of Health and Basic Education, 2012; FAO, 2009). To this end, several current national policy documents and international initiatives stipulate specific objectives to be achieved within the public school sector, such as the provision of preventative and health-promoting services that can support the health-related needs of school-going learners; facilitation of learning through the identification and support of health-related barriers to learning; and support for school communities by creating a safe environment for both teaching and learning (Departments of Health and Basic Education, 2012). According to the Department of Basic Education, these objectives can be achieved by means of strategies such as health promotion and health education; capacity building; partnership and community participation (Departments of Health and Basic Education, 2012).

The commitment of the South African Government to put children first is evident in its adoption of the United Nations Convention on the Rights of the Child (United Nations, 1989) and the Bill of Rights of the South African Constitution (Government of the Republic of South Africa, 1996). This commitment is especially important in the Intermediate Phase school years (Grade 4 to 6) during which an emphasis on learners' optimal health may not only improve their survival, growth and overall health, but also support learning, development and collective well-being (Departments of Health and Basic Education, 2012). To this end, the World Health Organisation's (WHO) Expert Committee on School Health (1996) argues that school-based health promotion interventions can improve community-wide health and well-being, education, as well as social and economic development. During the World Education Forum held in Dakar (United Nations, 2000) the forum more specifically recommended the following components for school-based health promotion interventions: "health-related school policies, healthy learning environments, skills-based health education and school- based health and nutrition-related services" (UNESCO, UNICEF, & World Bank, 2020, p.2).

In recent years, several South African Government policies have been put into effect in an attempt to address household food and nutrition insecurity by means of strategies focusing on food fortification, food supplementation and school feeding Programmes (Netshitenzhe, 2007). For example, the Integrated School Health Policy (Departments of Health and Basic Education, 2012) accentuates the implementation

of health promotion interventions that can promote health and well-being throughout learners' lives. In this regard, the road map document used by the South African education sector, Schooling 2025, and Action Plan to 2014 (Department of Basic Education, 2010) identifies the provision of health promotion and poverty reduction interventions as prominent goals.

When considering suitable platforms for such health promotion interventions, schools are viewed as excellent environments and unique resources that can promote quality of life, community-wide health and collective well-being through the implementation of school-based interventions (Roseman, Riddell & Haynes, 2011). No other institution can offer the level of continued contact with school-aged learners (Story, Kaphingst & French, 2006) where numerous opportunities exist for direct health promotion (Power & Blom-Hoffman, 2004). As such, large numbers of learners of varying socio-economic levels and ethnic backgrounds can be reached through school-based health promotion interventions. It follows that an ongoing focus is required on the development and implementation of school-based health promotion interventions with the aim of positively impacting community members' quality of life, development and overall health (Roseman et al., 2011).To this end, Beecher and Sweeny (2008) propagate community-wide health promotion efforts through curriculum enrichment. Although curriculum enrichment may be regarded as something additional and non-essential, literature indicates the importance of an engaging, stimulating and enriched learning environment for learners to develop optimally (Reis & Fogarty, 2006). According to Beecher and Sweeny (2008), curriculum enrichment requires comprehensive action-based interventions that may respond to the unique needs of school communities, are broader than the regular curriculum, and may extend beyond the traditional school day.

The planning of such school-based health promotion interventions implies a multi-component process of assessing health-related needs and challenges together with the available assets or resources of a specific community to develop and implement an intervention that may improve quality of life, community-wide health, social development and collective well-being (Cason & Logan, 2006; Green & Kreuter, 1999; Glanz, Rimer & Lewis, 2002; Patton, 2002; Farquhar, Parker, Schulz & Israel, 2006). Although several different intervention-planning models exist, most models share the broad stages of assessment and analysis of existing health-related

challenges as identified by community members; establishment of community specific goals and objectives; development and implementation of the health promotion intervention and evaluation of the developed intervention (Green & Kreuter, 1999; Farquhar, Parker, Schulz & Israel, 2006). To this end, my study may contribute to existing literature on school-based health promotion interventions with a focus on curriculum enrichment, more specifically in terms of the process of the development, context and format of an intervention.

1.3 PURPOSE OF THE CURRENT STUDY, EMBEDDED WITHIH THE BROADER WIN- LIFE PROJECT

The Win-LIFE project (introduced in Section 1.1) entailed five phases. These are obtaining baseline information; developing and revising the intervention; training teachers and implementing the intervention in three schools with Grade 4 to 6 learners; monitoring and evaluating the outcome of the intervention; and reporting findings to stakeholders while investigating the possibility of extending the intervention to other schools and potentially other contexts. As part of the broader project, the purpose of the current study was firstly to explore how interdisciplinary community coalitions within the framework of Participatory Reflection and Action (PRA) may inform the development and implementation of health promotion interventions. The second purpose was to describe the manner in which the Win-LIFE intervention can inform existing theory on school-based health promotion interventions, focusing on the potential role that schools may fulfil in this regard. Figure 1.1 provides an overview of the broader research project and the various postgraduate studies that informed it.

Phase 1:
Two MEd studies in Educational Psychology (both supervised by me and R Ferreira as co-supervisor):
- Cook, E. 2016. *Teachers' perceptions of the food consumption practices in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: University of Pretoria.
- Kumalo, D. 2017. *Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: University of Pretoria.

1 Obtaining baseline information

5 Report findings and investigate the possibility of extending the intervention

2 Develop, revise and train teachers in health promotion intervention

4 Monitoring and evaluating

3 Implement the intervention

Win LIFE

Action — Practice — Reflection — Research — Plan

Phase 4:
One PhD and two MEd studies in Educational Psychology (both supervised by R Ferreira, with W Fraser and me as co-supervisors):
- Bentley, K. 2017. *The experiences of Grade 5 learners of an enriched Life Skills curriculum*. Unpublished MEd dissertation. Pretoria: University of Pretoria.
- De Vos, M. 2017. *The experiences of Grade 5 learners of an enriched Natural Sciences curriculum*. Unpublished MEd dissertation. Pretoria: University of Pretoria.
- Ngwenya, D. 2018. *Evaluation of a school-based health promotion intervention in a resource-constrained community*. Unpublished PhD thesis. Pretoria: University of Pretoria.

Figure 1.1: Phases of the broader research project

The overarching purpose of Phases 2 and 3 (develop and implement the Win-LIFE intervention, that is the focus of my study) was to improve learners' existing knowledge, skills and viewpoints on healthy eating habits, nutrition-related needs, and lifestyle changes by offering them an enriched curriculum. The Win-LIFE intervention therefore ultimately focused on the promotion of social responsibility and positive change in terms of healthy food choices, food production, food preparation and food consumption. The intervention was developed after exploring parents' and teachers' perceptions during Phase 1 and consulting experts in the fields of education, food and nutrition-related research.

The investigation was undertaken against the background of the national school curriculum, being the Curriculum Assessment Policy Statement (CAPS), with the aim

of enriching the Grade 4 to 6 content of the subjects Life Skills, Natural Sciences and Technology. As such, the Win-LIFE intervention that was ultimately developed aligns with the learning outcomes for Grade 4 to 6 learners in the said subjects.

The cycle at the far right of Figure 1.1 indicates the process of continuous reflection, planning, research and implementation (action and practice) I followed during the development and implementation of the Win-LIFE intervention. As such, research and practice were closely linked, involving collaboration with interdisciplinary community coalitions. As social issues and practical challenges experienced in the participating resource-constrained community formed a backdrop to the development and implementation of the intervention, these practical challenges determined the focus areas of the initial stage of my research, with the aim of creating an intervention that could support people to address some of the identified challenges.

In summary, the purpose of my study (Phases 2 and 3 of the broader project) was to explore, describe and explain how community coalitions within the framework of PRA may create a platform for and inform the development and implementation of a health promotion intervention. By exploring the process the establishing interdisciplinary community coalitions within a South African resource-constrained community setting, I attempted to understand how the development and implementation of an intervention may or may not facilitate context-specific contributions in support of future school-based health promotion interventions.

The potential contribution of the current study situated within the broader project thus centres on the value of collaborative development and implementation of health promotion interventions. To this end, I aimed to foreground how the Win-LIFE intervention may inform existing theory on school-based health promotion interventions, seen against the role that collaboration and schools may fulfil in this regard. Contributions in this knowledge field can in turn assist schools in practically becoming inclusive hubs of learning, care and support (Departments of Health and Basic Education, 2012). By describing the development, nature and content of the Win-LIFE intervention, I aimed to add to existing literature on how health promotion interventions may or may not contribute to school-based curriculum enrichment.

1.4 RESEARCH QUESTIONS

The current study was directed by the following two central research questions:

❖ How can the development and implementation of the Win-LIFE intervention inform existing theory on school-based interventions? (*Theoretical question*)

❖ How can interdisciplinary community coalitions, within the framework of Participatory Reflection and Action (PRA), inform the development and implementation of school-based interventions? (*Methodological question*)

In order to address these primary research questions, I was guided by the following secondary questions:

❖ How do school principals, deputy principals and teachers view the health promotion role of schools and provide related support in a resource-constrained community in South Africa?

❖ Which food consumption practices, health promotion information and nutrition-related needs of a South African resource-constrained community might inform the development of the Win-LIFE intervention?

❖ How can the development and implementation of the Win-LIFE intervention enrich the South African school curriculum?

❖ How can future versions of the Win-LIFE intervention be approved, based on the experiences of the teacher participants?

1.5 WORKING ASSUMPTIONS

Based on my initial literature review, I undertook my research against the background of the following assumptions:

❖ I assumed that health promotion initiatives imply that individuals within community coalitions will fulfil the role of active agents in search of improving quality of life, community-wide health, individual wellness and collective well-being.

❖ I assumed that school communities and teachers can expand learners' knowledge on nutrition-related information, skills and behaviour.

❖ I assumed that through delivering a health promotion intervention within a school environment, change may occur in communities in terms of food-

consumption practices, quality of life, health, individual wellness and collective well-being.

❖ I assumed that PRA can be utilised when engaging a school community and other members of community coalitions in developing and implementing a health promotion intervention.

❖ I assumed that the participants of this study could benefit from their mere participation in this study in terms of their repertoire of knowledge and skills.

❖ I assumed that sustainable community-wide change is possible through the involvement of interdisciplinary community coalitions where a variety of people participate in collective planning and community mobilisation at multiple levels and in multiple sectors by utilising multiple modes of inquiry.

❖ I assumed that health promotion interventions are community-led and community-owned, yet that researchers can contribute to such efforts as partners in the coalitions.

❖ I assumed that the selected community would represent a good example of a resource-constrained community in South Africa.

1.6 CLARRIFICATION OF KEY CONCEPTS

In this section I clarify the key concepts that were operationalised in the current study.

1.6.1 Health promotion intervention

The World Health Organization and Department of Health (2014, p.6) describes health promotion as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health". Globally, health promotion is considered as a reliable strategy for comprehensive and equitable community-wide health, social development and collective well-being (Perez et al., 2013) while operating on an individual, community, organisational and policy level (Davies & Macdowell, 2006).

In South Africa, health promotion is regarded as an inter-sectoral discipline, "relevant to both the private and public sectors, and civil society, including those that are not usually engaged in health" (Department of Health, 2014, p.3). Health promotion is furthermore viewed as an approach directed at achieving optimal health, consisting

of planned activities that may benefit participants when facilitated through social and behavioural science theories (Davies & Macdowall, 2006).

It follows that health promotion interventions entail behavioural support strategies that are combined with educational and environmental actions, within conditions that can be conducive to community-wide health improvement and quality of life for both individuals and communities (Green & Kreuter, 2005; Glanz, Rimer & Viswanath, 2008). Health promotion interventions have the potential of enabling and empowering communities to take control over and improve their health through positive and informed changes (Glanz, Rimer & Viswanath, 2008). To this end, the Department of Health (2014, p.3) emphasises health promotion interventions as efforts or activities "aimed at promoting and enabling people to take control of their health and developing skills to practise healthy behaviours and prevent unhealthy behaviours".

In this study, the overall aim of the Win-LIFE intervention was to develop and implement an inter-sectoral, school-based health promotion intervention for a specific target population (teachers, parents and learners from three primary schools in a resource-constrained community near Bronkhorstspruit) that could facilitate the acquisition of age appropriate knowledge, changed attitudes, and the attainment of new skills and behaviour in an attempt to improve the collective health and well-being of the participants by means of educational strategies and curriculum-based activities. In addition, the Win-LIFE intervention specifically aimed to enrich the South African Grade 4 to 6 Intermediate Phase school curriculum in the subjects Life Skills, Natural Sciences and Technology in an effort to assist the three participating schools to become focal points of learning, care and support.

1.6.2 Development of a school-based health promotion intervention

The concept *development* can firstly be described as an ongoing process of structural and societal change, with the focus being placed on the systematic process of long-term (structural) transformation of society. This implies that a shift in one dimension will have implications for other dimensions. However, a second perspective on *development* focuses on short- to medium-term goals that can be measured and compared to desirable targets (Thomas, 2004; Sumner & Tribe, 2008).

Salisbury et al. (2007) concur that the development of a school-based health promotion intervention signifies planned efforts to reduce and overcome identified challenges by means of sustainable plans and approaches. Within the context of the current study, development is regarded as a series of ongoing planned and structured educational activities in a specific timeframe that focuses on supporting school communities to make informed decisions about their health and well-being with the aim of facilitating growth and long-term sustainable change.

1.6.3 Implementation of a school-based health promotion intervention

According to Bender (2004), *implementation* includes the undertaking of commitments and activities that have been set out in a specific plan. Durlak and DuPre (2008, p.329) regard implementation as "what a programme consists of when it is delivered in a particular setting". During the implementation of health promotion interventions various factors such as dependability, quantity and quality of the Programme being delivered, participant engagement, and distinctiveness of the Programme may play a role (Hogue, Liddle, Singer & Leckrone, 2005). In the current study, implementation refers to the processes and methods used by the facilitators of the Win-LIFE intervention. More specifically, implementation of the intervention entailed the presentation of the lessons that formed part of the Win-LIFE intervention to the Grade 4 to 6 learners that participated in the study.

1.6.4 Resource-constrained community

Resources can be of an economic, human, physical and political nature (Chaskin, 2001). These include any assets that may be utilised to fulfil health promotion needs and overcome related challenges (Green, Botha & Schönfeldt, 2004). Next, the concept *community* implies a network of interactions between individuals and families that rely on one another and share a defined geographical or physical space, with specific demographic characteristics, infrastructure, shared experiences, values and interests (Ferreira & Ebersöhn, 2012; Visser, 2012). Wagner, Swenson and Henggeler (2000) describe a *community* from an intervention-based perspective as a concept that refers to individuals and families that reside in a specific context (area, region or province). This implies that an intervention-based perspective foregrounds the selection of particular groups of people in identified areas, with the

aim of addressing identified challenges by relying on inter-sectoral coalitions (Butterfoss, 2004; Peu, 2014).

In the current study, a resource-constrained community accordingly refers to a group of individuals residing in a particular location, characterised by poverty and limited access to facilities such as electricity, running water and other basic services. The resource-constrained community near Bronkhorstspruit where my research was undertaken is charaterised by malnutrition because of household food and nutrition insecurity, poverty, high rates of unemployment, limited resources and challenges related to the provision of electricity, sanitation and running water in the community. The community consists of a population of 22 434 people (5 812.57 per km²) and 7 069 households (Statistics South Africa, 2011a). The largest racial group within this community is black Africans (97%), with a preference to speak isiNdebele (30%), isiZulu (28%) and Sepedi (13%). This resource-constrained community received media coverage on numerous occasions in the past because of violent service delivery protests (Mail & Guardian, 2014).

1.7   PARADIGMATIC PERSPECTIVES

In the following sections I introduce the type of knowledge I aimed to generate, as well as the standards I used to validate this (epistemology) and the approach I followed to generate knowledge (methodology).

1.7.1   Interpretivist meta-theoretical paradigm

I adopted interpretivism as meta-theory based on this paradigm's emphasis on the meaning that communities and individuals attach to their lived experiences (Denzin & Lincoln, 2000) and the "uniqueness of a particular situation" (Kelliher, 2005, p.123). Interpretivists believe that reality is socially constructed (Husserl, 1965) and that the possibility of obtaining information-rich, in-depth perceptions, opinions and experiences regarding a social phenomenon is enhanced when interacting with participants in their natural settings.

As an interpretivist researcher I thus aimed to provide the reader with detailed information about my study and insight into the manner in which the development and content of the Win-LIFE health promotion intervention may inform existing knowledge on such interventions and the potential role that schools may fulfil in this

regard. Secondly, I aimed to foreground the manner in which interdisciplinary community coalitions within a framework of PRA informed the development and implementation of the Win-LIFE intervention.

Interpretivism resonates with my worldview, as I regard the participants of any study as the experts of their own lives who have constructed meaning based on interactions and experiences. The Win-LIFE intervention was developed through a process of prolonged engagement and data generation activities with the participants, and subsequently an analysis and interpretation of their lived experiences in the specific resource-constrained community (Terre Blanche & Durrheim, 2002). Interpretivism allowed me to generate data in an interactive manner, with the aim of understanding and interpreting the meaning underlying the participants' perceptions, experiences and opinions (Denzin & Lincoln, 2000). As an interpretivist researcher, I thus aimed to find meaning in the actions and expressions of the participants in an attempt to obtain an inside understanding of their experiences (Denzin & Lincoln, 2000).

In adopting the interpretivist paradigm, I was able to generate data in a flexible manner (Silverman, 2013) and engage in interpretations throughout the research process (Denzin & Lincoln, 2000). However, I remained cognisant of the possibility that my interaction with the participants could have contributed to emerging knowledge, that my selected paradigm could have led to subjective interpretations, and that my own values and biases could have affected the manner in which I interpreted the data (Denzin & Lincoln, 2000). As a result, I aimed to remain aware of and guard against any form of subjectivity (Silverman, 2013) through the use of reflection and regular discussions with my supervisor.

1.7.2 Qualitative research approach applying PRA principles

In following a qualitative research approach I was able to obtain a rich, detailed understanding of the phenomenon under study (Farquhar, Parker, Schulz & Israel, 2006). This approach allowed me to adjust to the different research situations and maintain flexibility (Silverman, 2013). Against the background of the aims of the broader research project, I was able to directly engage with the opinions and perspectives of community members, which confirms the possibility of intervention projects being tailored to the needs of the participants or a community (Farquhar et al., 2006). As I could collaborate with the participants during data generation and as

part of the data analysis process, I was able to engage them in a non-threatening way − focusing the attention away from traditional power-relationships between researchers and participants, to one where the participants were taken as equal research partners (Creswell, 2012).

I applied PRA principles during the qualitative data generation process, as such an approach fits well with research that involves intervention development and implementation in resource-constrained communities (Chambers, 2004).PRA guided research typically aims to integrate research with educational development (Chambers, 1994) and propagates a mutual attempt by researchers and participants to strengthen the existing knowledge and skills in the community where a study is undertaken. The decision to employ PRA principles was furthermore based on the possibility of the active involvement of the participants, which could in turn become a source of power to the participants through access to new knowledge and skills (De Vos et al., 2005).

In addition, a PRA-guided qualitative approach seemed suitable for the current study (and broader research project) as it involved a South African resource-constrained community, with the specific focus of health promotion. In conducting qualitative research while applying PRA principles, I was thus able to involve different groups of participants, representative of different social ecologies or systems within the participating school community, without limiting my focus to a particular group. Even though qualitative research is often critiqued in terms of the generalisability of the results that are obtained, generalisation was not my aim. Instead, the focus fell on an in-depth understanding of the development and implementation of a specific school-based health promotion intervention in a specific school setting by listening to and learning from participants' voices, experiences and perceptions.

1.8   OVERVIEW OF RESEARCH DESIGN AND METHODOLOGY

Figure 1.2 provides an overview of the research process of my study. Following this overview, I briefly introduce the research design, selection of the cases and participants, as well as the strategies I utilised for data generation, documentation and analysis. More detailed discussions follow in Chapter 3.

2012
- An official from the Gauteng Department of Basic Education (GDE) approached R Ferreira and indicated the need for an intervention in a resource-constrained community near the Bronkhorstspruit area.
- The research team negotiated access to three primary schools and obtained permission from the school principals (Consult Appendix B) and school governing bodies (Consult Appendix C) to commence with the research project in 2013.
- Applied and obtained ethical clearance from the Ethics Committee of the Faculty of Education and permission from the GDE (Consult Appendix A) to commence with research in February 2013.

2013
- Generated baseline information (Consult Appendix E1): Cook, E. 2016. *Teachers' perceptions of the food consumption practices in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: UP; Kumalo, D. 2017. *Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: UP.
- Inductive, thematic data analysis and interpretation of baseline information (Consult Appendix E2) and member checking session with participants (Consult Appendix E3).
- Focus group (Consult Appendix F) with university researchers (n=15) from five departments at the University of Pretoria to discuss possible content to be included in the Win-LIFE intervention.
- Analysis of national and international policy documents and initiatives to inform the content included in the Win-LIFE intervention (Consult Appendix G).
- Development of preliminary Win-LIFE health promotion intervention (manual for educators and workbook for learners) (Consult Appendix H).

2014
- PRA-based workshop with 30 teachers (member checking session) from the participating schools at the University of Pretoria to finalise the content and discuss implementation of the intervention (Consult Appendix I).
- Semi-structured interviews with officials from the Agricultural Research Council (n=2), GDE (n=2), as well as school principals and/or deputy principals (n=5) regarding the development and implementation of the health promotion intervention (Consult Appendix J).
- Second member checking session (Consult Appendix K) with teachers (n=24), focusing on the content of the Win-LIFE intervention.
- Training of teachers (n=24) to implement the Win-LIFE intervention.
- Observation of the implementation process (Consult Appendix P).

2015
- Re-implementation of the Win-LIFE intervention with 31 Grade 5 learners at one of the participating primary schools (School B).
- Observation of the re-implementation process.
- PRA-based workshops with learners to determine their experiences of the Win-LIFE intervention: Bentley, K. 2017. *The experiences of Grade 5 learners of an enriched Life Skills curriculum*. Unpublished MEd dissertation. Pretoria: University of Pretoria; De Vos, M. 2017. *The experiences of Grade 5 learners of an enriched Natural Sciences curriculum*. Unpublished MEd dissertation. Pretoria: University of Pretoria.
- Focus group discussion with teachers (n=13) exploring their experiences of the implementation of the Win-LIFE intervention.

2016
- Regular ad hoc conversations with the volunteer teacher who supported the research team during re-implementation of the Win-LIFE intervention.
- Two-member checking sessions with 31 Grade 5 learners (as part of Bentley's (2017) De Vos' (2017) and Ngwenya, D. 2018. *Evaluation of a school-based health promotion intervention in a resource-constrained community*. Unpublished PhD thesis. Pretoria: University of Pretoria) studies.

Figure 1.2: Overview of the research process

1.8.1 Multiple case study design

According to Creswell (2012), case study designs allow for thick descriptions, insight and an in-depth understanding of specific social phenomena, events or people under study. Closely aligned, McMillan and Schumacher (2014) describe such a bounded system as being specific in terms of the setting, time and characteristics

of the participants. Based on the purpose and research questions of the current study, I regard an in-depth multiple case study design (Yin, 2012) as suitable, as this design allowed me to gain an in-depth understanding of the development and implementation of the Win-LIFE intervention – thereby gaining insight in terms of a specific intervention in a specific context.

When a number of instrumental cases are integrated into a single study, the research design is described as a collective, multiple or multisite case study (McMillan & Schumacher, 2014). Within a multiple case study design more than one example or setting is being used. In the current study three primary schools were selected and each school (setting) was considered as a case. Yin (2012, p.46) argues that this type of case study design is "more compelling and the overall study is therefore regarded as more robust".

Donmoyer (2002) refers to the advantage of accessibility when conducting case study research. Closely related, a case study design can provide the reader with the opportunity to see the world through the eyes of the researcher. In the current study, the reader may thus see the picture through my eyes, against the lenses of the interpretivist epistemological stance I took. Although I did not aim to generalise the findings I obtained but rather to explore and describe the specific social phenomenon from an interpretivist stance, transferability of the findings to other similar cases may be possible (Huberman & Miles, 2002; Lincoln & Guba, 2002).

In this regard, Lincoln and Guba (1985) argue that the purpose of qualitative or naturalistic inquiry is to build a body of knowledge, which is best encapsulated in a series of working assumptions that describe a particular case. Since the phenomenon within the specific case is neither typically time- nor context-free, generalisations are not possible. However, depending on the degree of contextual similarity, transferability of the generated working assumptions may be possible from case to case. Another potential challenge relates to the possible need for spending extended time at each site to understand and describe the details of each case (Schofield, 2000). In order to obtain an in-depth understanding of each case and the participants, I, as a result, visited each site on several occasions and over a prolonged period of time (February 2013 to October 2016).

1.8.2 Selection of cases and participants

In this section I briefly describe the sampling procedures I applied in selecting the three research sites (cases) and the participants of the study. I elaborate on my discussion in Chapter 3.

1.8.2.1 Selection of cases

As part of the broader Win-LIFE project, purposeful sampling was used to select three primary schools in a resource-constrained community situated in Gauteng, South Africa. The selection of the schools was conducted in collaboration with the Gauteng Department of Education (GDE) in 2012 to ensure the selection of information-rich cases, and to be able to address issues that are central to the purpose of the enquiry. Maree and Pietersen (2007) indicate that purposeful sampling is thus used when a sample is selected with a specific purpose in mind.

As my study formed part of the broader Win-LIFE project, it follows that I then conveniently selected the three primary schools that had already been purposefully selected when I joined the project. My reason for conveniently selecting these schools as cases for my doctoral study was that the broader research project was undertaken at the three primary schools in the resource-constrained community, with the research sites being easily accessible and positive relationships already in place between my supervisor and the teacher and parent participants when I joined the project (Creswell, 2012).

Possible limitations of convenience sampling that I had to remain cautious of relates to the fact that results are typically difficult to generalise and that the cases may not necessarily represent an identified population when conveniently selecting them (McMillan & Schumacher, 2014; Creswell, 2012). Even though I acknowledge these potential limitations, the aim of the current study was not to generalise the results, but rather to gain a deep understanding of the practices, ideas and opinions of a selected resource-constrained community, based on the research design and methodology I employed.

1.8.2.2 Selection of participants

According to Patton (2002), several strategies may be applied when purposefully selecting cases and participants that are information-rich. I relied on variations of

purposive sampling (Patton, 2002) to select the different groups of participants for my part of the study. I firstly depended on criterion sampling in assisting a MEd Educational Psychology student to select Grade 4 to 6 teachers[3] (n=45) (Cook, 2016), and on snowball sampling to assist another student (Kumalo, 2017) to select parent participants[4] (n=23) for their studies, which provided baseline information for my study. I subsequently co-analysed and interpreted the baseline data collected by the two students as evidence-base and foundation for the development and implementation of the Win-LIFE intervention.

Later on in my study, I again employed criterion sampling (Patton, 2002) to select teacher participants for a PRA-guided workshop (n=30), training (n=24) and feedback session (n=13) for implementation of and feedback on the Win-LIFE intervention. In addition, I relied on maximum variation sampling (Patton, 2002) to select university researchers (n=15), as well as representatives from the Agricultural Research Council (n=2) and the Gauteng Department of Education (n=2) as experts in the field. Finally, I used reputational case sampling to select learner participants (n=31) during re-implementation of the Win-LIFE intervention between August and October 2015, even though this phase did not form part of my focus yet was part of the broader project. A detailed discussion of the selection process and criteria is provided in Chapter 3.

1.8.3 Data generation and documentation

I followed a multi-method data generation approach (Patton, 2002) in my attempt to enhance the depth of understanding as well as the rigour of my study. My choice of data generation strategies was influenced by my decision to apply PRA principles, resulting in the inclusion of various strategies that are creative, flexible and visual by nature (Chambers, 2004). In deciding on data generation and documentation strategies, I was also guided by the strategies envisioned and employed for the broader Win-LIFE project.

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[3] Cook, E. 2016. *Teachers' perceptions of the food consumption practices in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: University of Pretoria.
[4] Kumalo, D. 2017. *Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community*. Unpublished MEd dissertation. Pretoria: University of Pretoria.

1.8.3.1 Document analysis

I completed structured document analysis (Fraquhar, Parker, Schulz & Israel, 2006) as background to the empirical research I conducted. According to Strydom (2011, p.314) document analysis entails the analysis of "written material that contains information about the phenomenon that is being researched". I specifically included document and policy analysis to gain insight into existing school-based health promotion interventions that focus on the health and development of school-going learners and the communities in which they live and learn before embarking on the process of intervention development in this field. A potential benefit of policy and document analysis that applies to the current study relates to the fact that it allowed me to plan and implement a school-based intervention in a systematic way, based on the knowledge I had obtained. Although policy and document analysis cannot change community-based health-related challenges, I was able to better understand general strengths and accomplishments as well as weaknesses and challenging areas, with related policy alternatives (McMillan & Schumacher, 2014).

More specifically, as basis for developing and implementing the Win-LIFE intervention, I analysed the following documents: The South African National School Nutrition Programme (NSNP) (Department of Basic Education, 2014); the Care and Support for Teaching and Learning Programme (CSTL) (Department of Basic Education & MIET Africa, 2010); the Action Plan to 2014: Towards the Realisation of Schooling 2025 (Department of Basic Education, 2011); the Curriculum and Assessment Policy Statement (CAPS) (Department of Basic Education, 2012); the Integrated School Health Policy (ISHP) (Departments of Health and Basic Education, 2012) and the Fetsa Tlala Integrated Food Production Initiative (Department of Agriculture, Forestry and Fisheries, 2013). I also analysed documents on international initiatives, such as the Health Promoting Schools Initiative (Department of Health, 1997), the Millennium Development Goals (MDGs) initiative (United Nations, 2000) and the document on the Sustainable Development Goals (SDGs) (United Nations, 2018). Finally, I co-analysed the data generated by the two MEd (Educational Psychology) students that completed their studies under my supervision (Cook, 2016; Kumalo, 2017), as this provided baseline information for my study.

1.8.3.2 PRA-guided workshop and activities

Leach (2003) regards workshops as a popular strategy when wanting to implement participatory principles and ensure participant involvement when determining and formulating the aims and outcomes of a research process. I conducted a PRA-guided workshop with teachers and representatives of the Gauteng Department of Education (GDE) to explore and finalise the content of the Win-LIFE intervention after development of the preliminary version, as well as to discuss possible implementation strategies. This strategy enabled me to observe the interaction between the participants and gave me access to verbally expressed opinions, perceptions and experiences as well as to non-verbal communication between the participants. During the workshop I was furthermore able to explore contradictions and uncertainties in relation to the preliminary developed Win-LIFE intervention (Leach, 2003).

For the PRA-guided workshop, small groups of participants discussed the content I proposed as suitable to include in the Win-LIFE intervention (captured in the preliminary version thereof) and then presented their ideas to the bigger group (Chambers, 2004). I decided to implement a PRA-guided workshop for this phase of my study, as the ultimate aim was to gain knowledge from people by people (Chambers, 2004). I was driven by the view of Chambers (2004), stating that PRA-guided workshops ask for a collaborative approach to learn about communities.

1.8.3.3 Focus groups

I facilitated two focus groups to gain insight into the opinions and perceptions of small groups of participants about their experiences and views on specific topics. These focus groups assisted me in generating ideas for the Win-LIFE intervention and later to monitor and evaluate the progress of the implemented intervention. According to Freeman (2006, p.491), focus groups provide "a rich understanding of people's lived experiences and perspectives, situated within the context of their particular circumstances and settings". As focus groups allow participants to build on or disagree with one another, more points of view could be generated during the data generation of my study than what was foreseen as possible through in-depth interviews (Farquhar et al., 2006).

For the current study I firstly facilitated a focus group with university researchers (n=15) from five different departments of the University of Pretoria in November 2013. The aim was to obtain different perceptions regarding suitable content to include in the Win-LIFE intervention as well as implementation strategies that could be considered. A second focus group took place in November 2015, during which teacher participants (n=13) discussed the initial implementation of the Win-LIFE intervention by teachers during the period August to October 2014.

The flexible and spontaneous nature of focus groups aligns with PRA principles, which encourage the active involvement of participants, knowledge sharing and interactive discussions (Ferreira, 2006) when aiming to obtain rich data. A specific advantage implied by focus groups that I experienced relates to the possibility of obtaining in-depth information within a relatively short period of time at a minimal cost. Focus groups enabled me to gain insight into the participants' worldviews and perceptions on the development and implementation of the Win-LIFE health promotion intervention in the school context (Schurink, Schurink & Poggenpoel, 1998).

1.8.3.4 Semi-structured interviews

Interviews can be regarded as opportunities where knowledge is being constructed based on direct interactions between a researcher and participants (Suzuki, Ahluwalia, Arora & Mattis, 2007). As such, semi-structured interviews can allow an outsider to gain some insider knowledge, together with an understanding of community-based experiences, needs and challenges (Patton, 2002). In-depth interviews are typically documented by using an audio-recorder and later transcribing the interviews, taking field notes and writing up post-interview impressions (Farquhar et al., 2006).

For the current study, I conducted two semi-structured interviews during the period May 2014 to March 2015. The interviews were conducted with three school principals and two deputy principals of the participating schools (August 2014; October 2014; March 2015) as well as with two representatives of the GDE (June 2014; March 2015) and two of the ARC (May 2014; June 2014; March 2015). Throughout, I aimed to gain insight into the lived experiences of the participants from

their points of view and to understand the meaning they attached to their experiences (Suzuki et al., 2007).

1.8.3.5 Observation-as-context-of-interaction

Observation as data generation strategy is often employed when undertaking interpretivist research, as it may allow the researcher to capture the natural setting of participants and the context in which a social phenomenon occurs (Terre Blanche & Kelly, 2002). I specifically relied on observation-as-context-of-interaction (Angrosino & Mays de Pérez, 2000) as I did not focus on observation as a method *per se*, but rather used it as a context for interaction between the different groups of participants involved in the research context. As a PRA researcher I occasionally found it challenging to maintain the necessary balance and not act as insider, yet also not too much as an outsider (Angrosino & Mays de Pérez, 2000).

As I became familiar with the participants our relationships grew stronger. Therefore, after a period of four years I could progressively move from being an outsider towards fulfilling the role of inside observer (emic perspective). As the different groups of participants became comfortable with my role as collaborative researcher and participant observer, they started sharing their worlds and views more openly with me. In an attempt to ensure that I documented all essential observations, I followed the guidelines for observation provided by Bogdan and Biklen (2003), thereby documenting my observations immediately after I had observed behaviour or actions, not discussing my observations with others before documenting these, finding a quiet place to document my observations, and scheduling enough time to do this.

1.8.3.6 Audio-visual techniques

I used an audio-recorder to capture the participants' responses during the focus groups and semi-structured interviews that were later transcribed verbatim (Bless, Higson Smith & Sithole, 2013; Chambers, 2007; Nieuwenhuis, 2007b). Besides ensuring that I captured all spoken information, audio-recordings enabled me to verify participant responses during later stages of the research process (Halcomb & Davidson, 2006).

In addition to audio-recordings, I relied on visual data for my study, in the form of photographs. In including photographs, I attempted to provide a holistic and descriptive image of the research setting, participants and activities that the participants engaged in (De Lange, Mitchel & Stuart, 2008). Ebersöhn and Eloff (2007, p.204) refer to several advantages of utilising visual documentation as a strategy, such as experiencing the "joy of capturing the research process through photographs", visually capturing specific moments, and being able to represent participants' actions and behaviours. Before taking any photographs, I ensured that all participants had been informed of the purpose of this strategy, and provided their consent for my taking photographs and displaying their faces when disseminating the results of my study.

At its core, PRA research implies visual representation of ideas by participants. According to Kelly and Van Der Riet (2000, p.22) such visual techniques can make the data generation process and inductive thematic analysis "opaque, obvious and available" to participants that engage in research. Visual representations can also enable participants to gain insight into their situations. In order to enrich the generated data of my interpretivist study, I thus supplemented the PRA-materials that the participants generated with photographs, thereby documenting my observations and experiences (Walsh, 2007).

1.8.3.7 Field notes and a reflective journal

I divided my reflective journal into two sections, capturing both descriptive and reflective notes (Bogdan & Biklen, 2007). The two sections supported my thinking in terms of the various aspects of my role as researcher and of the entire research process. I namely made use of systematic descriptive field notes to capture the essence of the research process in written form. This allowed me to re-visit the process when needed (Ferreira, 2006). My descriptive field notes included information on dates, where the observation took place, what the physical setting was like, the length of the sessions, which activities took place, which participants were present, and which informal interactive conversations with participants transpired (Farquhar et al., 2006). The strategy I followed aligns with Patton's (2002) view that descriptive field notes need to permit readers to experience the observed activities.

In addition to descriptive field notes I compiled systematic reflective notes to document my own ideas, concerns, emotions, experiences, strengths, learning process and support needs throughout the study. Interpersonal reflexivity enabled me as a researcher to know what it was about when engaging in the action research process so that I could improve my professional practice. Throughout, I acknowledged the fact that I entered the research field with my own frame of reference and preconceptions, and thus guarded against these influencing my interpretations and actions (McMillan & Schumacher, 2014).

1.8.4 Data analysis and interpretation

I completed reflexive thematic analysis, which is often associated with interpretivism, a qualitative research approach and the application of PRA principles (Braun & Clarke, 2021). Braun and Clarke (2021, p.4) describe reflexive thematic analysis as a "theoretically flexible method, for developing, analyzing and interpreting patterns across a qualitative dataset". In addition, Braun and Clarke (2021) view reflexivity as drawing upon experiences, pre-existing knowledge and probing how these aspects affect and contribute to the research process and possible insight into the generated qualitative data. Consequently, reflexive thematic analysis regards knowledge as situational because of the interaction between the researcher, participants and the generated data (Braun & Clarke, 2021).

As such, my data analysis and interpretation implied a dynamic and systematic, continuous learning process, where I as the researcher came to new insights as the study progressed (Bogdan & Biklen, 2003). In the current study, the purpose of reflexive thematic analysis and interpretation was firstly to describe and understand the participants' experiences and the manner in which they constructed meaning. Secondly, I attempted to describe the diversity and variety of the participants' experiences; thirdly to strengthen the participants' voices, and finally to study individuals in their natural contexts (Bless, Higson-Smith & Sithole, 2013). I also focused on providing accurate descriptions and interpretations of the development and implementation of the Win-LIFE health promotion intervention, as well as the manner in which interdisciplinary collaborative community coalitions, within a PRA-framework, informed and enriched the intervention (Patton, 2002).

During the process of thematic analysis I synthesised and tried to make meaning of large amounts of raw data, and identify suitable themes, categories and patterns (McMillan & Schumacher, 2014). As a first step, I familiarised myself with and organised all data I obtained from the existing documents I had analysed, the PRA-guided workshops, focus groups, interviews, ad hoc conversations, observations, field notes, my reflective journal and the audio-visual strategies I relied on. As I collected the data in interacting with the participants I had prior knowledge of the data, with some initial analytic thoughts before I commenced with the inductive thematic analysis process. As part of the first step in the analysis process, I thus actively employed "repeated reading" in an effort to search for meanings, patterns and possible themes (Braun & Clarke, 2006, p.87). During my initial reading, I used general categories for the sorting process. After the systematic process of repeated reading and giving equal attention to the data, I later used manual coding by making notes in the texts that I analysed, using coloured pens to indicate possible patterns (Creswell, 2012; McMillan & Schumacher, 2014).

Hereafter I organised the coded data into more specific themes and possible sub-themes. I consulted with my supervisor on a regular basis to discuss the codes and broad identified themes. I also met with my co-researchers to verify possible themes and sub-themes. After I had arrived at a point of saturation in terms of the coding process, I finalised the themes and sub-themes. As reflexive thematic analysis and interpretation acknowledges the co-construction of knowledge and meaning making by both the researcher and participants and endeavours to create an understanding of the participants' meanings, I employed member checking by presenting my preliminary findings in terms of the identified themes and sub-themes to the participants for them to confirm and refine the identified themes and sub-themes, correct me and elaborate or clarify where necessary (Patton, 2002; Braun & Clarke, 2021; Loots, 2011; Creswell, 2012; McMillan & Schumacher, 2014).

1.9   ETHICAL CONSIDERATIONS

Throughout this study I was guided by ethical awareness, the protection of human rights and social justice (Shaw, 2008; Orb, Eisenhauer & Wynaden, 2000). My ethical decision-making was informed by reflexivity, shared dialogue and collegial consultation with my supervisor to ensure ethically justifiable research (Haverkamp,

2005). Orb, Eisenhauer and Wynaden (2000) argue that respect for participants implies a recognition of the right to be informed about the nature and potential consequences of a study, the right to decide whether or not to participate in a study, as well as the right to withdraw at any time (De Vos et al., 2005). This is known as procedural ethics (Tracy, 2010).

I honored the principle of respect by obtaining voluntary informed consent (See Appendix C) prior to participants' participation in the study. Voluntary informed consent was obtained for participation, the recordings of discussions, observing the participants and taking photographs throughout the research process (Strydom, 2011). Before I entered the research field I also obtained the required permission from the Department of Basic Education (Gauteng region) (Consult Appendix A), the principals of the participating schools (Consult Appendix B) and the School Governing Bodies.

Another guiding ethical principle that I respected is beneficence, which can be described as safety in participation by not exposing participants to dangerous situations and preventing them from harm. I regard beneficence as an ethical obligation (Creswell, 2003) to ensure that participants benefit from a study, that research potentially contributes to the well-being of participants and that they are protected from any possible harm (physical and/or emotional) (Bless et al., 2013; Strydom, 2011).

Next, the ethical principle of privacy indicates that all obtained information must be handled in a confidential manner and with sensitivity (Leedy & Ormrod, 2010). In terms of this ethical principle I undertook to protect the identity and privacy of the participants through the use of pseudonyms in the raw data and by safekeeping all raw data sources in a locked cabinet at the University of Pretoria. Protection of the participants' identities applies to all possible future publications even though the participants opted for their faces to be visible when using visual data. Throughout the study, I did not mislead the participants, nor did I withhold any information or misrepresent facts. According to Strydom (2011, p.119), "no form of deception should ever be inflicted on respondents". Participants were thus informed about the research process and purpose at the onset of the study. I also paid attention to the

ethical principle of accuracy by including accurate data and not fabricating or falsifying any detail.

I remained aware of the possible challenges related to cultural and language differences between the participants and me, and acknowledge the potential influence that this might have had on my research practice. I attempted to implement multivocality (Tracy, 2019) that is derived from the practice of *verstehen*, 5pointing to an analysis from the participants' view point (Tracy, 2019). I therefore attempted to view the research phenomenon through the eyes of the participants, and remain aware of cultural differences (Tracy, 2019). Throughout the research process I refrained from making value judgments in terms of any cultural aspect of the participating community, or any differences between the research team and participants (Strydom, 2011).

1.10 QUALITY CRITERIA

Throughout the research process I aimed to address potential methodological challenges in an attempt to add to the trustworthiness and quality of the study. To this end, I strived towards reaching the criteria of credibility, transferability, dependability, conformability and authenticity (Lincoln & Guba, 1985).

Credibility refers to the notion of internal consistency, together with "how we ensure rigour in the research process and how we communicate to others that we have done so" (Gasson, 2004, p.95). During my study I attempted to provide a credible account of the participants' communal sense of reality. I furthermore aimed to enhance credibility through triangulation by utilising multiple data sources, theories and co-researchers in the process of data generation (Lincoln & Guba, 1985). In addition to utilising multiple data sources as discussed in a previous section (Welman & Kruger, 2001), I spent an extended period of time with the participants in the field, which allowed me to verify their perspectives over time (Lincoln & Guba, 1985).

Transferability refers to whether or not research findings can be transferred from one specific context or case to a similar situation (Bless et al., 2013). The current study focuses on a resource-constrained community near Bronkhorstspruit, and involved selected community members such as teachers and parents, university researchers and representatives from the Agricultural Research Council and

Gauteng Department of Basic Education as participants whose perceptions, experiences and opinions do not necessarily represent those of the whole community. Therefore, the findings cannot be generalised and applied to other settings. However, generalisation of the findings was not the aim of this interpretivistic study even though the option exists for the reader to decide to what extent the findings may be transferred to similar settings, based on my detailed descriptions of the research setting, context and process (Bless et al., 2013).

Dependability indicates to what extent a research process is documented in a systematic manner, and whether or not the process is logical (Bless et al., 2013). Consistency may pose a challenge in the sense that human reaction is not static, but continuously changes as new circumstances arise. During the current study it was thus imperative to continually reflect on the findings and whether or not these were consistent with the generated data (Huberman & Miles, 2002). By incorporating an audit trail I attempted to achieve dependability, thereby providing a detailed account of the research process I followed by means of comprehensive documentation of the methods and strategies I utilised as well as the decisions I made. The inclusion of verbatim transcriptions of audio-recordings during field visits, my reflective journal and in-depth field notes furthermore contributed to the depth and trustworthiness of the current study.

Confirmability occurs when dependability and transferability of a study have been achieved (Lincoln & Guba, 1985), and entails the extent to which the focus of a study is reflected in the findings and interpretations of the results (Babbie & Mouton, 2001), not being influenced by the biases of the researcher (Patton, 2002). I was able to address confirmability through self-reflexivity and the provision of an audit trail. In addition, I relied on the strategy of keeping an ethical stance at all times (Patton, 2002). I furthermore presented the generated data and interpretations as closely as possible to the real words of the participants by using ordinary, concrete language and member checking (Babbie & Mouton, 2001).

Finally, the criterion of authenticity can be met if a study portrays various realities (Patton, 2002). In my view, PRA-guided research fits naturally with this criterion since it is based on the construction of knowledge through sharing and dialogue (Babbie & Mouton, 2001; Ferreira, 2006). Authenticity furthermore refers to the fairness of a

study and whether or not the descriptions and explanations of participants, events and places correlate with one another (Patton, 2002). The goal of the current study was to describe the development and implementation of a specific health promotion intervention in such a way that the description correlates with a representation of the participants' views. In order to enhance ontological authenticity, I thus requested participants to verify the identified themes and sub-themes to ensure that their perceptions were understood correctly and reproduced accurately (Patton, 2002) during member checking field visits in 2013, 2014 and 2015. Finally, tactical authenticity was obtained through the initiated action introduced by the research, in the form of implementation of the Win-LIFE intervention (Lincoln & Guba, 1985; Ferreira, 2006).

1.11 OUTLINE OF THE CHAPTERS

I present the outline of the chapters of this thesis in this section.

CHAPTER 1: INTRODUCTION TO THE STUDY

Chapter 1 serves as a background chapter to the thesis by providing a general orientation to the study and stating my reasons for selecting the particular phenomenon I focused on. I outlined the research purpose, formulated guiding research questions and clarified the key concepts. This was followed by an overview of the selected paradigmatic perspectives, research design and methodological strategies I utilised. I concluded the chapter by briefly introducing the ethical considerations and quality criteria I adhered to.

CHAPTER 2: LITERATURE REVIEW

In Chapter 2 I discuss the existing literature applicable to the focus of the current study. The global impact of poverty and malnutrition is reviewed and discussed. In addition this chapter includes a discussion of food consumption practices in resource-constrained communities, school-based Nutrition Education, as well as the potential role of schools and teachers in terms of health promotion interventions. My discussion furthermore focuses on the planning, development and implementation of health promotion interventions, as well as the importance and development of community coalitions. The chapter concludes with a discussion and presentation of the conceptual framework I utilised in the study.

CHAPTER 3: RESEARCH METHODOLOGY AND STRATEGIES

In Chapter 3 I provide a detailed explanation of the selected research methodology and strategies I utilised in the current study. I explain Interpretivism as selected meta-theory and the qualitative research approach I followed whilst applying PRA principles. I also explain my choice of research design, as well as the methods of data generation, documentation, analysis and interpretation I used. I conclude the chapter with a comprehensive discussion of the ethical considerations and quality criteria that I respected throughout the study.

CHAPTER 4: RESULTS OF THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE WIN- LIFE INTERVENTION

Chapter 4 focuses on the results of the current study. I present the three central themes that I identified during the thematic analysis I completed. Theme 1 highlights aspects that were considered during the planning of the Win-LIFE intervention; and Theme 2 concentrates on the collaborative development of the Win-LIFE intervention; Theme 3 centres on the implementation of the Win-LIFE intervention. For each of these themes I stipulate the inclusion and exclusion criteria I relied on in identifying the related sub-themes and categories. In reporting on the results, I substantiate my discussions by including participants' verbatim contributions, excerpts from my field notes and reflections, as well as visual data.

CHAPTER 5: FINDINGS ON THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE WIN-LIFE INTERVENTION

In Chapter 5 I interpret the results and present the findings against existing literature as presented and discussed in Chapter 2. Throughout, I attempt to relate the results of the current study to existing theoretical frameworks and models to highlight correlations and contractions, and to reach conclusions regarding the research focus in terms of new insight gained from the study.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

In Chapter 6 I draw conclusions based on the findings of the study. I address the research questions as indicated in Chapter 1. Next, I reflect on the strengths and potential contribution of the study and identify the challenges I faced during my undertaking of the study. I conclude the thesis by making recommendations for future training, practice and research.

1.12 CONCLUSION

The purpose of this chapter was to provide the reader with an introduction and framework for the current study. I contextualised the study, outlined my rationale and purpose for undertaking the investigation and formulated research questions. I furthermore introduced the paradigmatic approaches I followed, and provided an overview of the research design and methodological strategies I relied on. Finally, I introduced the ethical considerations and quality criteria I adhered to.

In Chapter 2 I discuss existing literature on the impact of poverty, household food and nutrition insecurity in South Africa, the global prevalence of malnutrition, and factors affecting malnutrition. Next, I elaborate on food consumption practices and nutrition-related needs of South African resource-constrained communities. I provide a detailed description of health promotion in the form of school-based Nutrition Education and contemplate the potential role of schools in health promotion Nutrition Education as well as that of teachers in school-based health promotion interventions. Next, I focus on the planning, development and implementation of interventions and explain the importance, formation and development of community coalitions in developing health promotion interventions. I conclude the chapter with a discussion of my conceptual framework, in terms of the Social Ecological Model and Kolb's theory of learning, embedded in a framework of community psychology as basis for the development and implementation of the Win-LIFE intervention.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of Chapter 1 was to provide a general orientation and introduction to the current study. I explained the rationale for and purpose of the study, formulated research questions and stated the working assumptions with which I approached the study. Thereafter I clarified the key concepts and provided a broad overview of the selected research design and methodology I employed. I concluded the chapter with an overview of the ethical guidelines and quality criteria I considered.

In this chapter I explore existing literature on the impact of poverty; household food and nutrition insecurity in South Africa; the global prevalence of malnutrition and factors affecting malnutrition as well as food consumption practices and nutrition-related needs of South African resource-constrained communities. Next, I discuss health promotion and contemplate the value of school-based Nutrition Education as a potential strategy to deal with malnutrition, with specific reference to school-based Nutrition Education in South Africa, and the associated potential role of schools in health promotion. Thereafter I focus on the planning, development and implementation of school-based health promotion interventions, and explore the role of community coalitions in such interventions. I conclude the chapter with a discussion of the conceptual framework I compiled and was guided by in undertaking my research.

2.2 CHALLENGES TYPICALLY EXPERIENCED BY RESOURCE-CONSTRAINED COMMUNITIES WITH REGARD TO MALNUTRITION AND FOOD INSECURITY

In this section, I provide an overview of the general challenges faced by resource-constrained communities globally, but specifically in South Africa. To this end, I discuss literature on the global prevalence of malnutrition as well as factors affecting the phenomenon in South Africa, the impact of poverty, household food and nutrition insecurity, as well as food consumption practices and needs in South Africa. Even though several other challenges are associated with resource-constrained

communities in South Africa, I limit my discussion to the said phenomena due to the focus and purpose of my research and the broader Win-LIFE project.

2.2.1 Malnutrition as a worldwide crisis

Malnutrition is a global health concern that can take the form of either under-nutrition (stunting, underweight and wasting) or over-nutrition (overweight and obesity). Globally, approximately 149 million children under five years of age suffered from stunting in 2020. These numbers may have increased substantially due to constraints to access nutritious diets and essential nutrition services during the COVID-19 pandemic. The full impact of the pandemic on stunting is, however, yet to be determined (UNICEF, WHO, & World Bank, 2021). In addition to this, some fundamental reasons for malnutrition include poverty, gender inequality, insufficient care when pregnant, elevated low birth weight percentages, and inadequate access to health care services (UNICEF, WHO, & World Bank, 2021).

The Food and Agriculture Organisation (FAO) indicates that Sub-Saharan Africa and Asia account for the highest malnutrition rates and accommodate almost 89% of the world's most malnourished individuals (FAO, IFAD, UNICEF, WFP, & WHO, 2019). According to the Global Nutrition Report (2021), Sub-Saharan Africa specifically experiences malnutrition amongst children under five years of age. According to the 2021 Global Nutrition Report, the average prevalence of overweight is 5% for this region, which is lower than the global average of 6%. However, the prevalence of stunting is 31%, which is higher than the global average of 22%. Furthermore, Sub-Saharan Africa's adult population faces the burden of high levels of malnutrition with an average of 10% of the adult females living with diabetes, compared to 9,7% males. In addition, 21% of females and 9% of males suffer from obesity (UNICEF, WHO, & World Bank, 2021).

On local ground, Hendricks and Dlamini (2013) accentuate the fact that South Africa is severely confronted with malnutrition, more specifically within resource-constrained communities, across all ages. The primary challenges experienced in South Africa relate to stunting and micronutrient deficiency, predominantly amongst children. In this regard, May, Witten and Lake (2020) confirm the link between malnutrition on the one hand, and reduced academic proficiency and school registration on the other, especially amongst children from resource-constrained communities. Iron deficiency,

as another common form of malnutrition, can also be linked to weakened cognitive, motor and social-emotional development (Hendricks & Dlamini, 2013; May et al., 2020).

According to Otang-Mbeng, Otunola and Afolayan (2017), a disturbing factor in South African resource-constrained communities relates to the frequency of adult residents being either overweight or obese (over-nutrition). Goetjes, Pavlova, Hongoro, and Groot (2021) specify that almost 69% of South African females older than 20 years are overweight, with nearly 44% of these being obese. In terms of child mortality, findings of Gavhi, Kuonza, Masekiwa and Motaze (2020) indicate that about 40% of all children under five years of age died because of severe acute malnutrition between 2014 and 2018 in Limpopo province (South Africa).

Malnutrition affects countries worldwide and determines individuals' growth and development, general health and well-being, as well as productivity. Malnutrition distresses certain groups of people more than others, of which children and youth, women and elderly people are examples (UNICEF, WHO, & World Bank, 2021). In children, malnutrition is usually linked to a decrease in physical activity, weakened resistance against disease and ill health, reduced mental development and educational capacity, as well as increased mortality rates (UNICEF, WHO, & World Bank, 2021).

Regardless of numerous health-related innovations and support Programmes, a large group of people worldwide still survive on a minimum amount of money per day (UNICEF, WHO, & World Bank, 2021). Both hunger and malnutrition are intensified by diseases such as HIV and AIDS, the inability of families to withstand food and nutrition insecurity, and poverty. Poverty is regarded as the root cause of malnutrition and is linked to inadequate access to food, hygiene and safe water (World Bank, 2019).

According to UNICEF (2019), malnutrition is responsible for more than six million of the almost 11 million deaths that occur globally per year, and is specifically prevalent in the case of children. Child malnutrition contributes to more deaths globally than any other disease or illness. As already indicated, vulnerability to malnutrition affects the physical and emotional development of any population, as well as the general welfare of its citizens, and effective contributions to the labour market. The global

financial crisis and increase in food prices may contribute to job losses, simultaneously decreasing the purchasing power of and healthy eating habits amongst consumers (UNICEF, 2019).

Although the percentages of malnourished individuals in developing countries continue to be alarmingly high, a reduction of almost 24% in 1990-1992 to nearly 13% in 2012-2016 has been seen. Even though the socio-economic situation of resource-constrained communities continues to deteriorate, development in opposition to malnutrition as well as food and nutrition insecurity has decelerated in recent years. These trends may be related to a worldwide focus and efforts on addressing the formulated SDGs with some of these, specifically focusing on poverty alleviation, solutions to end hunger, achieving food security, and ensuring that individuals have access to quality food and sustainable agriculture. However, globally, the number of people affected by hunger increased during 2020 because of the COVID-19 pandemic. Subsequently, the prevalence of malnutrition increased to almost 10% in 2020, from 8% in 2019 (UNICEF, WHO, & World Bank, 2021).

2.2.1.1   Factors affecting malnutrition

Gain (2005, p.3-4) states that "South Africa has a two-tiered economy, serving a wide range of consumers characterised by an uneven distribution of wealth and income". More specifically, South Africa, as a developing country, is typified by contrasting living conditions, ranging from wealthy suburbs to underdeveloped, resource-constrained communities. The latter are generally challenged by poverty, unemployment, a shortage of job opportunities and even inadequate access to basic services such as running water (UNDP, 2014). Resource-constrained communities are furthermore typically confronted with poverty-stricken hygienic and sanitary conditions, food and nutrition insecurity, as well as unhealthy eating habits (Govender, Pillay, Siwela, Modi, & Mabhaudhi, 2016).

According to Naicker, Mathee and Teare (2015), the most vulnerable community members (in relation to poverty, as well as household food and nutrition insecurity) usually form part of larger-sized households, where families often stay in informal dwellings that do not conform to municipal building regulations (Duvenhage, Schönfeldt & Kruger, 2010; Oxfam, 2014). The levels of food and nutrition insecurity,

as well as poverty within these households determine the nutritional status of family members and may be considered as a direct cause of malnutrition.

Parents and caregivers are primarily responsible for the food choices within families. Food choices are typically based on cost, availability, accessibility, time restraints, culture and beliefs (Scaglioni, De Cosmi, Ciappolino, Parazzini, Brambilla, & Agostoni, 2018). As the nutritional needs of resource-constrained community members are generally diverse, these may, however, not always be met through available local food stores. According to Govender et al. (2017), community members on ground level can, for example, experience a shortage of energy, proteins and micronutrients, with their nutritional status furthermore being influenced by the access they have to and their consumption of available food. Community members' age is yet another factor that can dictate their nutritional necessities (Govender et al., 2021).

The UNICEF fundamental framework of malnutrition is often used to analyse the basic, underlying and immediate factors affecting malnutrition. As these factors are multifaceted, they can extend over different settings within individuals' lives (Young, 2020). The framework can furthermore be applied to any context, as it focuses on the relationship between different contributing factors of malnutrition (Young, 2020). The framework is included in Figure 2.1 on the following page.
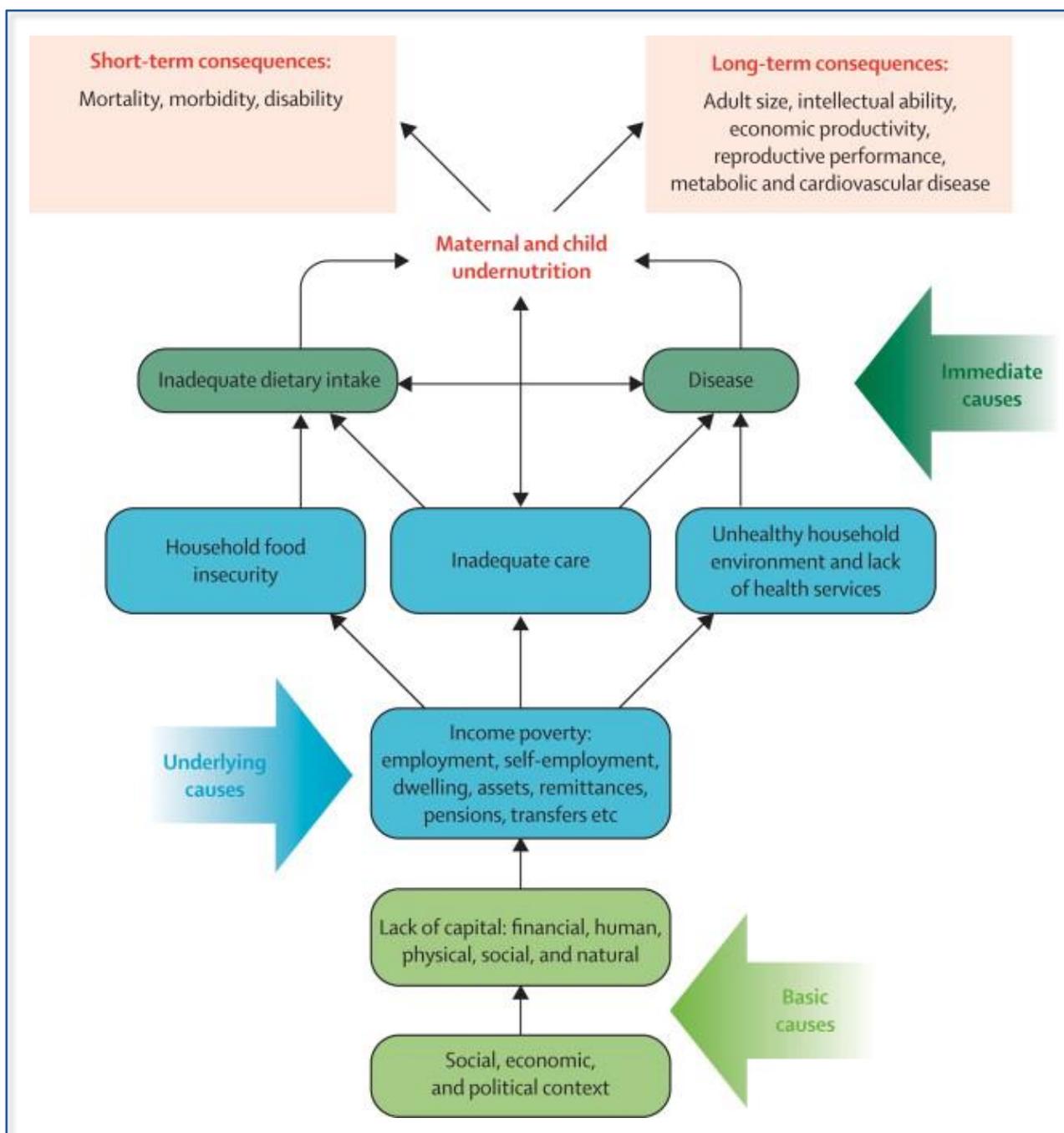
Figure 2.1: Fundamental framework of malnutrition (Young, 2020, p.6)

For Figure 2.1, the immediate causes that may affect malnutrition include insufficient nutritional consumption, psychosocial distress and disease. These factors are influenced by underlying factors that may entail household food and nutrition insecurity, insufficient care for mothers and children, the unavailability of health services, unhealthful environments and hazardous drinking water. Additional aspects that can contribute to the underlying factors affecting malnutrition include family size, the composition of the family, and food distribution within the family (Vorster, 2009; Young, 2020).

The underlying causes affecting malnutrition are in turn influenced by certain basic factors. These relate to the availability and control over resources, together with political, social, ideological, cultural and economic aspects that can affect access to available resources (Young, 2020). Vorster (2009) underscores the fact that in order to address the factors affecting malnutrition as depicted in Figure 2.1, individuals, families and communities need to strengthen their nutrition-related knowledge, change unhealthy food-related behaviours and promote home-based vegetable gardens.

In explaining the high prevalence of malnutrition in South African resource-constrained communities (such as the one where the current study was undertaken) it is clear that inadequate dietary intake and disease can be regarded as the immediate causes of malnutrition. As a result, the prevalence of malnutrition in most South African resource-constrained communities is determined by causes such as inadequate access to food, limited health care services and an unhealthy environment as well as by basic causes, such as the broader social, economic and political forces that perpetuate and produce poverty and inequality, neglect human rights and deny people access to essential resources. Underlying all these contributing factors is poverty that is highly prevalent in South Africa and negatively affects numerous households in terms of their food intake and nutritional status.

2.2.1.2 Factors affecting malnutrition amongst children

According to Mkhize and Sibanda (2020), the proximate and fundamental reasons of malnutrition may influence the nutritional status of children. These reasons include disease, unsuitable health services, unhealthy conditions and existing literacy levels within households. In this regard, Mkhize and Sibanda (2020) point out that limited knowledge and illiteracy may lead to inadequate food choices and unhealthy eating habits. Accordingly, self-growth and development may come to a halt, thereby limiting the likelihood of rising income levels, as well as diversity in terms of the food products that are consumed. In addition, Cusick and Georgieff (2016) emphasise that suitable knowledge about appropriate nutrients is vital for age-appropriate development of children and that a lack thereof may contribute to a weak nutritional status within this developmental group in society.

As indicated, the competence of parents and caregivers regarding healthy food choice and eating habits co-determine the nutritional status of their children (Mkhize & Sibanda, 2020). According to the Okeyo, Seekoe, de Villiers, Faber, Nel, and Steyn (2020), school-going children within resource-constrained communities tend to purchase snacks and unhealthy items from vendors outside the school grounds if they have money for food. Supplemental to these choices, most children tend to consume carbohydrates in the form of bread and porridge during meals at home. However, the UNICEF (2019) emphasises the fact that the nutritional value will be weak when children and adults primarily consume carbohydrates for most of their meals, as these food items basically provide energy only (UNICEF, 2019). It follows that a lack of healthy food choices and eating habits can lead to community members (children) not reaching their full potential (Young, 2020).

2.2.2 Impact of poverty within the context of food, nutrition and well-being

South Africa has an inherent history of poverty that can be traced back to colonialism and apartheid (Lephakga, 2017). Individuals affected by poverty are portrayed as "not having the means to afford basic human needs such as clean water, nutrition, health care, education, clothing and shelter" (Department of Agriculture, Forestry & Fisheries, 2011, p.3). It follows that poverty implies the inability of individuals, households and communities to obtain adequate resources with the purpose of sustaining a minimum standard of living in society (Mabughi & Selim, 2006).

Faber, Kunneke, Wentzel-Viljoen, and Wenhold (2016) indicate that food poverty can be measured in terms of the *per capita* cost of purchasing food baskets that will provide the basic nutritional means to meet the prescribed dietary energy requirements. Households without enough money to spend this *per capita* cost are classified as poor. On a more significant level, critical food-related poverty signifies the percentage of individuals whose earnings are lower than what is needed to access the necessary food that would meet their minimum dietary energy requirements (Faber et al., 2016).

According to the World Bank (2019), approximately 56% of the South African population is living in poverty at the national upper poverty line, while a total of 25% are experiencing food poverty. In this regard, Statistics South Africa (2016) indicates that large populations generally imply difficulty to provide a minimum standard of living for all. Since 2019, the number of South African households has increased

to approximately 17 million, roughly 490 000 more than in the previous years. Of these, the largest proportion of households who indicated that they skipped certain meals (18%) in a survey conducted in 2016 came from the Eastern Cape province, followed by the Northern Cape (18%) and North West Province (17%) (Statistics South Africa, 2016). In support, a study by Govender et al. (2016) indicated that more than 60% of the Kwa-Zulu Natal population lived in poverty at the time, with almost 29% being at risk of malnutrition.

Children in South Africa are disproportionately affected by poverty and inequality. According to UNICEF (2019), children from poor households tend to be seventeen times hungrier than children from wealthy households. Those from poverty-stricken households are furthermore unlikely to be covered by medical aid schemes, and will less often finish secondary school when compared to children from more affluent households (UNICEF, 2019). School-based Programmes and interventions, such as the national school feeding and Nutrition Education Programme in South Africa, may address some of the nutrition-related needs of such at-risk children (Department of Basic Education, 2014; FAO. 2009).

The high unemployment rate in South Africa is a major factor contributing to poverty (Statistics South Africa, 2016). In addition to poverty being the principal cause of hunger (World Bank, 2019), it can be regarded as the root of unhealthy eating habits and may also cause a rise in people suffering from non-communicable diseases. Individuals residing in resource-constrained communities usually live at subsistence levels and frequently have no choice but to consume a monotonous diet that is poor in quality with reduced nutrients (Oldewage-Theron & Kruger, 2008). Additional related hardships include malnutrition, a lack of sanitation and electricity, as well as inadequate schools and school facilities (UNDP, 2014).

Oldewage-Theron and Kruger (2008) agree that poverty is often associated with unhealthy eating habits, accompanied by household food and nutrition insecurity and malnutrition. These challenges foreground the importance of Nutrition Education in vulnerable communities in an attempt to enable community members to adjust their food purchasing, preparation and eating habits, with the ultimate aim of addressing the high incidence of non-communicable diseases.

In this regard, Napier and Oldewage-Theron (2015) are of the view that it is imperative to focus on the reasons for unhealthy eating habits and the poor nutritional status of adolescence residing in resource-constrained communities. For this population group, the availability and accessibility of healthy food, together with the frequency of family meals and parental food consumption practices they are exposed to, are significant determining factors in the decision making by adolescents with regard to food choices (confirmed by the work of Labadarios, Dhansay & Henricks, 2008a; Rendall-Nkosi, Wenhold, & Sibanda, 2013).

In terms of unhealthy eating habits as a result of poverty, South African resource-constrained households have been associated with sub-standard diet quality. More specifically, lower income populations often struggle to access nutritional and healthy foods, as these options may be more expensive than unhealthy products (Napier, Warriner, Sibiya, & Reddy, 2019). According to Napier et al. (2019), the dietary diversity of South African resource-constrained communities is limited, as only one in ten individuals consumes, for example, a sufficient number of products from the different food groups in relation to individuals that form part of the higher income category. In addition, Napier et al. (2019) confirm that the expenditure on meat and vegetables is six times lower in South African resource-constrained communities when compared to individuals with a higher income.

In support of these trends, O'Halloran, Eksteen, Polayya, Ropertz and Senekal (2021), express concern about street vendors located close to schools in resource-constrained communities with learners often purchasing unhealthy snacks from these vendors. De Villiers, Senekal, Nel, Draper, Lambert, and Steyn (2018) confirm that street vendors in resource-constrained communities, close to schools, are normal practice, yet a number of studies conducted in South African resource-constrained communities, report that unhealthy snacks and beverages are the main items sold by such vendors. For example, De Villiers and colleagues (2018) conducted a survey in 100 schools in urban and rural areas in the Western Cape province (South Africa), and found that the items most often sold by street vendors are sweets, chips, ice lollies, doughnuts, hot dogs, burgers and fat cakes (fried dough balls). Napier and Oldewage-Theron (2015) are of the view that role players within society, such as policy makers, together with public health campaigns may fulfil a role and educate adolescents through Nutrition Education initiatives on healthy food habits.

According to O'Halloran et al. (2021), changes in agriculture and technology have led to a global shift towards food environments being dominated by cheap and convenient, energy dense and nutrient poor food items. The role that food environments play in shaping population dietary intake has, however, gained notice by means of the second Sustainable Development Goal (SDG 2) that focuses on resolving the challenge of hunger, achieving food and nutrition security, improving nutrition and promoting sustainable agriculture. This SDG is aligned with a proposal by Nguyen, De Villiers, Fourie, Bourne and Hendricks (2013) that school-based health promotion Nutrition Education ultimately to focus on the eradication of poverty in an attempt to decrease the burden of non-communicable diseases and nutritional disorders often associated with poverty and malnutrition.

2.2.3   Household food and nutrition insecurity in South Africa

Food and nutrition security is a basic socio-economic right of all human beings (UNICEF, 2019). This status can be claimed when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life" (FAO, IFAD, UNICEF, WFP & WHO, 2019, p. 50). This implies that all people of society or a specific country will have access to sufficient food to ensure optimal health and collective well-being on a daily basis (Labadarios et al., 2008a).

As an umbrella term, food and nutrition security implies the availability of safe and nutritionally adequate food, as well as the ability to acquire acceptable quality food in a socially acceptable manner (Labadarios et al., 2008a; UNICEF, 2019). It follows that national food security can be claimed when a nation has the ability to manufacture, import and sustain the necessary food needed to support communities with minimum *per capita* nutritional standards (Labadarios et al., 2008a). As such, a level of community food security will be reached when the residents of a community can obtain a safe, culturally acceptable and nutritionally adequate diet by means of a sustainable food system that can maximise community self-reliance, quality of life and social justice (Hamm, 2009).

In South African households in resource-constrained communities, the primary challenge is food accessibility, rather than food availability (UNICEF, 2019). As a result, family members may not have access to nutritious food, despite this being

available in the country − e.g., when communities are situated far off in rural areas. Although South Africa has been classified as *food secure* on a national level, it is estimated that a large proportion of the population is thus vulnerable to household food and nutrition insecurity (Wing & Jivan, 2015).

The Integrated Food Security Strategy (Drimie & Ruysenaar, 2010) underscores several food and nutrition insecurity challenges faced by South African citizens. Firstly, the country faces the challenge of ensuring that enough food will be available for future generations; secondly, of ensuring that every South African citizen has access to sufficient food; thirdly, of educating South African citizens to make the correct choices in terms of nutritious and safe food; fourthly, of ensuring that adequate food emergency systems are available in case of natural disasters, and finally, that ongoing research is undertaken on the impact of food security interventions in the target communities (Drimie & Ruysenaar, 2010). Oldewage-Theron, Dicks and Napier (2006) indicate that although food and nutrition insecurity is not as widespread in South Africa as in other areas of Sub-Saharan Africa, household food insecurity persists in the majority of the black population. Drimie and Ruysenaar (2010) links household food insecurity to challenges such as high medical costs, funeral expenses and low labour productivity.

According to the Drimie and Ruysenaar (2010), the household food and nutrition insecurity situation is continually deteriorating due to limited food-related and nutritional information and knowledge of the general public, in addition to unhealthy eating habits, nutrition-related customs, attitudes to food, and related perceptions and socio-cultural influences. To this end, changes in terms of food-related and nutritional knowledge, behaviour, perceptions and attitudes have been linked to health promotion Nutrition Education interventions, with a knock-on positive effect on the nutritional status of South Africans who reside in resource-constrained communities (Drimie & Ruysenaar, 2010).

Food and nutrition insecurity typically results in hunger and malnutrition (Young, 2020), with the latter specifically referring to under-nutrition or stunting in children, frequently co-existing with over-nutrition (overweight in adults), together with diet-related chronic diseases. Walsh and Van Rooyen (2015) explain that over-nutrition (overweight in adults) is not necessarily always the result of eating too much, but can

be caused when people consume poor quality food due to, e.g., poverty. In Sub-Saharan Africa specifically, various challenges often associated with poverty contribute to food and nutrition insecurity, such as HIV and AIDS, unemployment and poor access to food at household level (Shishana et al., 2014; Walsh & Van Rooyen, 2015).

More specifically, Oldewage-Theron et al. (2006) notice that individuals in resource-constrained communities are likely to consume less healthy food, limit their portion sizes, or miss out on meals or food intake for complete days in an effort to cope with household food and nutrition insecurity. Caprio, Daniels, Drewnowski, Kaufman, Palinkas, Rosenbloom and Schwimmer (2008, p. 2213) explain that such unhealthy eating habits of individuals in resource-constrained communities can often be ascribed to the "low cost of widely available energy-dense, but nutrition-poor food". Darmon and Drewnoski (2008) elaborate on the factors that may lead to unhealthy eating habits of individuals in resource-constrained communities, referring to affordability, the environment, accessibility, lack of education and cultural patterns.

In an attempt to address the challenges associated with unhealthy eating habits, Faber et al. (2016) foreground the potential value of school-based interventions that focus on food, nutrition and dietary diversity. These authors posit that school-based interventions can have a positive effect on household food and nutrition security through, e.g., local vegetable garden initiatives that can strengthen access to healthy eating practices and the dietary quality of food that is consumed (Ruel, 2001; Waliczek, Bradley, & Zajicek, 2001). Faber et al. (2016) mention that interventions can furthermore address household-related poverty, enhance the nutritional status of community members, and encourage the empowerment of women in resource-constrained communities.

In terms of the alleviation of poverty, health promotion interventions that involve vegetable gardens imply the possibility of supporting household income generation, provided that the households produce a surplus of vegetables, and also have access to markets where they can sell their produce (Faber et al., 2016; Walsh & Van Rooyen, 2015). According to Faber et al. (2016), home-based vegetable garden initiatives may be complemented by school-based interventions to ensure healthier eating practices and food choices in school communities. More specifically, school-

based interventions on vegetable gardens can be used to promote the consumption of fruit and vegetables, teach learners how to establish and maintain a vegetable garden, introduce learners to healthy food preparation practices, provide adequate nutrition-based information, and motivate learners to acquire new knowledge on agriculture and nutrition (Bokeloh, Gerster-Bentaya, & Weingärtner, 2009; Faber et al., 2016).

2.2.4 Food consumption practices and nutrition-related needs of resource-constrained communities in South Africa

An ongoing transition to Western eating habits by specifically black South Africans has been reported over the past few decades (Napier & Oldewage-Theron, 2015; Oldewage-Theron & Kruger, 2008). These changes in eating habits are often ascribed to causes such as contemporary development, migration, immigration, urbanisation and better education opportunities (Napier & Oldewage-Theron, 2015; Oldewage-Theron & Kruger, 2008). This continued nutrition transition has, however, resulted in some negative outcomes, such as an increase in obesity and non-communicable diseases, especially in urban communities (Napier & Oldewage-Theron, 2015; Oldewage-Theron & Kruger, 2008).

On a broad level, Puoane, Matwa, Bradley and Hughes (2006) ascribe such negative outcomes to socio-economic aspects, cultural patterns and environmental factors that can be linked to individuals' eating habits. In accordance with this perspective, Drewnowski and Kawachi (2015) identify affordability, individuals' socio-economic status and the accessibility of food products as key elements impacting the food consumption practices of South Africans. Puoane et al. (2006) mention that the availability and accessibility of food is in turn determined by the characteristics of resource-constrained communities and the seasonality of influences in combination with a number of technological aspects that can affect the transport, delivery and supply of food.

The availability and accessibility of food can thus be linked to the physical and economic as well as the political environments of communities (Drewnowski & Kawachi, 2015). It is, however, important to note that not all healthy food products that are available and accessible will be selected for consumption, as food choice is also influenced by acceptability, which is once again influenced by both the economic (community) and cultural (interpersonal) environments (Puoane et al., 2006).

According to Goetjes et al. (2021) and Govender et al. (2021), individuals with a lower socio-economic status are likely to have less access to a variety of food stores and will possibly demonstrate eating habits that consist of energy-dense food types that are high in carbohydrates, sugars and salts, with less intake of fruits and vegetables. Individuals residing in resource-constrained communities who need to travel long distances to and from work, also tend to choose refined food with a high fat content, as these food types are simple to prepare. Such individuals are in addition predisposed to purchase fast food and snacks from informal vendors at prices that are affordable (Goetjes et al., 2021; Govender et al., 2021), typically resulting in unhealthy eating patterns.

Decisions related to food choice and consumption do not merely include conscious decisions based on intentional reflection, but also decisions that are made involuntarily and intuitively. Food-related behaviour and the exact manner in which food is purchased, produced, prepared, stored and presented, are embedded in and form part of individual cultural patterns. These cultural patterns determine the types of food that are purchased, the way in which food is prepared and served, and to whom, when and how often it is served, as revealed through daily eating habits (Goetjes et al., 2021; Govender et al., 2021; Napier & Oldewage-Theron, 2015).

Larson and Story (2009) distinguish the school as another contextual factor that can influence food consumption practices, since learners may consume certain food products during school hours. Many South African learners get meals at school as part of school feeding scheme programmes, or buy food outside the school grounds from food vendors (Larson & Story, 2009; Napier & Oldewage-Theron, 2015). Accessibility to food stores, as well as the availability of healthy food products at such stores is an additional factor that may affect the food consumption practices of children in resource-constrained communities (Larson & Story, 2009). As indicated earlier, the types of food that parents buy furthermore influence children's eating habits. When parents, for example, purchase healthy food for the household and demonstrate healthy eating habits, children can be expected to consume healthy food (Larson & Story, 2009).

Within the household context, food consumption practices imply collective communication and interaction between the different household members. As

indicated earlier, substantial changes have occurred in the food habits and consumption practices of South Africans over the past few decades, because of acculturation after urbanisation and improved transport, as well as broader communication (Puoane et al., 2006). In concurrence with reports from other Sub-Saharan African countries, these changes have typically entailed a move away from consuming home-based planted and grown foods towards the consumption of food that is offered by the commercial sector (Faber et al., 2016).

The transformed eating habits of South Africans residing in urban resource-constrained communities are more specifically portrayed by an increased consumption of proteins, fats, salts and sugar. In addition, the intake of plant proteins, dietary fibre and complex carbohydrates has generally decreased (Drewnowski & Kawachi, 2015). In many cases, individuals residing in resource-constrained communities follow eating patterns that include refined grains, starchy vegetables, added fats and sweets (Govender et al., 2016). South African resource-constrained communities furthermore often follow unvaried diets, consisting of limited food choices (Faber et al., 2016).

The majority of the monthly food budget of households in resource-constrained communities in South Africa is typically spent on maize, chicken and bread (Martins, 2005). In addition, sugar, tea, milk, white bread, non-dairy creamer, margarine, potatoes and green leafy vegetables are regularly consumed in these communities (Govender et al., 2021; Napier & Oldewage-Theron, 2015). In summary, Taylor and Jinabhai (2001, p. 137) describe the typical food choices of resource-constrained communities as consisting of "a single staple, corn prepared in numerous ways, supplemented by dried beans, negligible amounts of milk and occasionally meat and wild greens".

Adverse consequences of the food choices often made by resource-constrained communities include increased health problems and mortality rates that add to the demands placed on public health services (Larson & Story, 2009). Consequences such as these confirm the need for health promotion Nutrition Education. All such initiatives should, however, consider the consequences of unemployment on eating habits as food choice and intake, as well as food purchasing and preparation which essentially rely on accessibility, affordability and the employment status of consumers

(Govender et al., 2021; Napier & Oldewage-Theron, 2015), as well as the availability of food products and the acceptability thereof, based on environmental, political and cultural factors (Puoane et al., 2006).

2.3 GLOBAL DRIVE TO ADDRESS FOOD AND NUTRITION-RELATED CHALLENGES

As a result of the extent and effect of malnutrition, as well as food and nutrition insecurity, recent years have been marked by a global effort to improve poverty and address the challenges typically faced by resource-constrained communities. This global effort was formalised in the form of the MDGs (United Nations, 2013) and later the SDGs (United Nations, 2018).

2.3.1 Progress with the Millennium Development Goals (MDGs) in South Africa

The MDGs were formulated as part of a global attempt to stop extreme poverty by the year 2000. More specifically, the MDGs initially commenced as collectively agreed-upon goals attempting to end extreme poverty and hunger, as well as to expand primary education for all children. Goals were formulated to address pressing challenges for example to fight inequalities; increase economic growth; provide employment, more sustainable cities and human settlements; tackle ecosystems, oceans and climate change; ensure sustainable food consumption and production as well as build peace and strengthen justice.

Even though South Africa has made good progress in dealing with the scourge of all forms of extreme poverty (Refer to Section 2.4 for my discussion of the ways in which South Africa has responded), many challenges remain, such as persistent high poverty levels amongst vulnerable groups in society. Poverty is especially evident in areas where poor health and a lack of quality education prevail, which may in turn deprive individuals of employment; where resources are scarce; and where corruption, conflict and bad governance prevail that waste public resources and discourage private investment (United Nations, 2013). Of the eight MDGs formulated to have been reached by the end of 2015, the Win-LIFE intervention related to three, namely to eradicate poverty and hunger; to achieve better primary education for all children, and to reduce child mortality (United Nations, 2013).

In terms of the world-wide progress made in reaching these three MDGs, the number of underweight children below five years of age decreased within developing countries between 1990 and 2015 (United Nations, 2013). Poverty and hunger eradication showed varying levels of progress between and within regions. Some progress can be seen for universal primary education since 2000, however the progress has remained on 91% in developing countries since 2009, with a 70% completion rate of primary school education in South Africa by 2015. With regard to the MDG on child mortality, the mortality rate of children under the age of five years declined from about 13 million in 1990 to 6 million in 2015 (United Nations, 2013).

In a follow-up drive and building on the MDGs, SDGs were formulated as part of the 2030 agenda for sustainable development (United Nations, 2018). The SDGs that relate to the focus of the Win-LIFE intervention include the termination of poverty in all forms everywhere; ending hunger; achieving food security; improving nutrition and sustainable agriculture; ensuring healthy lives, and promoting well-being for all at all ages. In addition, the SDGs aim to enhance inclusive and equitable quality education, and to promote lifelong learning opportunities.

2.3.2 Progress with the Sustainable Development Goals in South Africa

The SDGs replaced the MDGs with the objective of producing a set of common goals that can meet urgent global environmental, economic, and political challenges by the year 2030. For the SDGs, the scope of the objectives was broadened to include 17 goals as opposed to the eight goals formulated as MDGs. Unlike the MDGs, which targeted only developing countries, the SDGs apply to all countries – be they rich or poor. The SDGs are nationally-owned and country-led, with each country having the freedom to establish a national framework to achieve the formulated goals.

As stated in the UN's 2030 Sustainable Development Agenda, SDG targets "are defined as aspirational and global, with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances" (UN, 2018, p. 7). As the SDGs represent a considerably ambitious, large-scale transformative agenda, they do not require significant co-operation between various relevant national and regional governments only, but correspondingly also between various sectors such as agriculture, economic and social development, health, technology and climate change. Whilst the global issues

of poverty, hunger and malnutrition are shared themes across the MDGs and successive SDGs, within the specific context of food and nutrition security, the SDGs compel policy makers to develop solutions that are broad and all-encompassing (United Nations, 2018).

Moreover, as part of the SDGs, the confined focus of hunger and poverty was expanded to include nutrition as well as various indicators that move beyond simple maternal and child health (United Nations, 2018). Even though all 17 of the SDGs include food-security related elements and indicators, SDG 2 is the most relevant with regard to addressing food and nutrition security. This goal focuses on one of the most important and basic human needs, namely to access nutritious, healthy food, and ensure its sustainable procurement. SDG 2 recognises that "Tackling hunger cannot be addressed by increasing food production alone," and that, "well-functioning markets, increased incomes for smallholder farmers, equal access to technology and land, and additional investments all play a role in creating a vibrant and productive agricultural sector that builds food and nutrition security" (UN, 2018, p. 2). Within the South African food policy the global SDGs have been incorporated into both national food and nutrition security policies and local food and nutrition security sensitive planning.

2.4 ADDRESSING FOOD- AND NUTRITION-RELATED CHALLENGES ON A NATIONAL LEVEL

In an attempt to alleviate poverty, as well as food and nutrition-related challenges such as extreme hunger, malnutrition, obesity as well as household food and nutrition insecurity, the South African government has undertaken several efforts over the past few decades. Various strategies and interventions have been implemented, such as governmental support grants, school feeding schemes, as well as free access to health services for young children, pregnant and breastfeeding women, to mention but a few (Drimie & Ruysenaar, 2010). In addition, the South African government has rolled out various initiatives in support of household food and nutrition security that focus on the eradication of hunger, malnutrition and poverty-related challenges experienced by many South African citizens in resource-constrained communities.

According to Devereux (2021), social protection is only possible when relief is experienced for income-related poverty, which will enable an individual to cope with

vulnerability. Social protection, which includes initiatives such as school feeding programmes, cash transfers (social grants) and other programmes, can influence the level of household food and nutrition security, malnutrition and hunger. These phenomena can be addressed through, for example, dietary diversity, a decrease in undesirable coping methods that affect nutrition and health, support to children to enroll in and attend school, increased household income levels and combating the spread of diseases such as HIV and AIDS (Devereux, 2021). In South Africa, the social protection strategy of social grant provision (cash transfers) has been prioritised over recent years, with a focus on the elderly, individuals who are disabled and children who were born on or after 31 December 1996.

In addition to a continued focus on social grant provision for vulnerable households, the South African government has introduced several Programmes, policies and initiatives to address food- and nutrition-related challenges in the country. As an example, the Integrated School Health Policy (ISHP) (Department of Health and Basic Education, 2012, p. 2) "aims to build on and strengthen existing school health services, as well as the optimal health and development of school-going learners and the communities where they live and learn". The ISHP is located within a number of universal and national programmes, which aspire to support and improve the general health and well-being of school-going learners by, for example, attending to quality education (Department of Health & Basic Education, 2012).

Another national attempt to address the challenges faced by many South Africans can be found in the Care and Support for Teaching and Learning (CSTL) Programme (Department of Basic Education, 2010) that was adopted in 2008 and that forms part of a Southern African Development Community (SADC) initiative. The CSTL Programme aims to prevent and alleviate aspects that may have an adverse effect on the development of at-risk learners by addressing barriers to teaching and learning. The CSTL provides an outline of how various care-based interventions can be linked to support school-going learners and their related school communities (Department of Basic Education, 2010).

Next, the National School Nutrition Programme (NSNP) is a school-based intervention that aims to address hunger and malnutrition in school communities. The NSNP promotes Nutrition Education for learners, teachers and parents through

school-based vegetable gardens, extra- and co-curricular activities. The Sustainable Food Production Programme in schools (SFPS) is a sub-programme of the NSNP, intended to support school communities by providing knowledge and practical skills on food production, as well as the sustainable use of natural resources. For this purpose, school-based vegetable gardens are often utilised to strengthen school communities' knowledge, skills and attitudes related to food and nutrition. Schools are assisted in this way to establish and sustain manageable vegetable gardens where school communities (learners, teachers and parents) can learn how to grow, tend to and harvest a variety of vegetables (Department of Basic Education, 2011).

The NSNP is regarded as an effective intervention to alleviate short-term hunger, as well as to increase school enrolment, attendance and community participation. Currently, learners in Quintiles[5] 1, 2, and 3 primary and secondary schools benefit from the NSNP (Department of Health and Basic Education, 2012), as well as learners from other identified special schools. Through the NSNP, the Department of Basic Education thus aims to enhance the learning capacity of school-going learners by providing them with healthy meals at school.

On a broader level, the South African government launched the South Africa Vision 2025 initiative almost a decade ago, focusing on the outcomes of government interventions rather than on inputs and bureaucracy (Departments of Health & Basic Education, 2011). Schooling 2025 is guided by, amongst others, the following goals: to ensure that learners are enrolled in school up to the year in which they turn 15 (goal 10); to increase parental input in the governance of schools (goal 22); to make sure that the school environment motivates learners to attend school and learn (goal 24) and to utilise the school as a location that will encourage learners to access health promotion and poverty reduction interventions (goal 25) (Department of Basic Education, 2011).

Closely related, the South African Integrated Food Security Strategy (IFSS) (Drimie & Ruysenaar, 2010) was initiated twenty years ago in support of the eradication of hunger and malnutrition, and the integration of existing food and nutrition insecurity interventions by different governmental departments (Drimie & Ruysenaar, 2010). A

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[5] Schools in South Africa are categorised in terms of quintiles, based on available resources. The lower the quintile, the less equipped in terms of resources.

key objective of the IFSS is to overcome rural household food insecurity by intensifying the involvement of these households in agricultural-related and production-based activities. To this end, the improvement of nutrition and food safety is encouraged through public education and interventions in vulnerable communities (Drimie & Ruysenaar, 2010).

Next, the National Development Plan (NDP) 2030 (The Presidency of South Africa, 2012) is a broad spectrum initiative that aims to support South Africans to eliminate income poverty, strengthen employment rates from 13 million in 2010 to 24 million in 2030, confirm household food and nutrition security, and ensure access to clean running water for all South Africans. The NDP (2030) also focuses on quality education and ensuring that "all children have at least two years of preschool education and all children in Grade 3 can read and write, establish a food trade surplus with one third being produced by small-scale farmers or households" (The Presidency, Republic of South Africa, 2012, p. 34). Quality health care for all South Africans has been prioritised in the same manner. It follows that the NDP propagates an approach that moves away from passive citizenry, where South Africans receive services from the state, to one that systematically includes the socially and economically excluded, where all South African citizens take on an active role in their own development.

Closely related and in support of the South African NDPs vision for 2030, the Fetsa Tlala Integrated Food Production Initiative (End Hunger) endeavours to contribute towards food and nutrition security for all (DAFF, 2013). The NDP views food and nutrition security as a key factor of poverty and inequality, with Fetsa Tlala focusing on the eradication of hunger by, for example, supporting smallholder farmers with production. Even though smaller scale interventions have been undertaken in South Africa to promote the health and well-being of vulnerable communities, I conclude my discussion with the examples referred to, as I am of the view that these examples provide an overview of governmental attempts to address food- and nutrition-related challenges in the country.

2.5 SCHOOL-BASED INTERVENTIONS IN SUPPORT OF THE HEALTH OF SCHOOL COMMUNITIES IN RESOURCE-CONSTRAINED CONTEXTS

As has already been emphasised, the promotion of healthy eating habits, nutritious food intake and the establishment of sustainable vegetable gardens can be regarded as vital developmental needs that require ongoing efforts and interventions in South Africa. UNICEF (2019) proposes an approach for developing countries, emphasising the importance of investing in the future generation when aiming to reduce the prevalence of hunger, malnutrition, poverty, as well as household food and nutrition insecurity in a sustainable manner. UNICEF (2019) furthermore specifically recommends the development and implementation of school-based interventions when wanting to promote the health and well-being of South African school communities in resource-constrained settings.

According to the Faber et al. (2016), it is a global trend for individuals to make unhealthy food choices when experiencing high levels of poverty and poor Nutrition Education. When attempting to address malnutrition, it is important to ensure an awareness and understanding of the prerequisites of healthy eating habits amongst individuals on ground level, in addition to focusing on motivation and knowledge acquisition by these individuals to make healthier choices. Nutrition Education, through school-based interventions, can expand agricultural foundations and increase quality of life within resource-constrained communities by promoting healthy eating habits and enhancing the nutritional status of school communities (O'Halloran et al., 2021).

2.5.1 Schools as suitable platforms for health-promotion interventions

The WHO (1997) underscores the important link between education and health. Whilst health significantly influences learning proficiency, regular school attendance and education are critical in enhancing general health and facilitating well-being of learners. According to the United States Department of Human and Health Services (USDHHS, 2000, p. 7), "Schools have more influence on the lives of young people than any other social institution except the family and provide a setting in which friendship networks develop, socialization occurs, and norms that govern behaviour are developed and reinforced". This statement captures the view that schools (which include school management, culture, the physical and social environment, the

curriculum, teaching and learning strategies, assessment procedures and support) may affect the health and well-being of both learners and staff members (school principals, teachers, volunteer food handlers, administration, staff, etc.) (WHO, 1997), with the possibility of an even broader effect on the family members of the learners of a school (Mertens, Deković, Leijten, Van Londen, & Reitz, 2020; Turunen, Sormunen, & Jourdan, 2017).

The Departments of Health and Basic Education (2012) support this view and explain the potential effect of schools on the long-term growth of developing countries, as well as the health of learners and their families, with the implied ultimate possibility of addressing poverty. To this end, schools are regarded as universal agencies through which society can prepare learners for their future (UNICEF, 2019). Schools hold the potential of access to almost the entire population of learners, including learners of minority and vulnerable groups. As such, schools are suitable to support health promotion initiatives, specifically in terms of the development and implementation of population specific interventions that may address the health-related and socio-economic challenges affecting learners (Departments of Health & Basic Education, 2012).

Steyn, Lambert, Parker, Mchiza and De Villiers (2009) agree with this claim and regard schools as established environments that are suitable for health promotion interventions, with the possibility of influencing health-related behaviour amongst learners that may be established as healthy patterns in adulthood. As an additional benefit, the possibility exists that the improved health and collective well-being of learners may affect their scholastic performance positively. Positive educational outcomes linked to good health and collective well-being amongst learners imply the possibility of improved classroom participation, school attendance and positive learner attitudes (Departments of Health & Basic Education, 2012; Turunen et al., 2017).

Schools can furthermore serve as an important link between learners and their parents on the one hand, and the broader community on the other. Existing research indicates that school-based interventions that involve parents or families as well as members of the broader community often result in positive change in the community (Departments of Health & Basic Education, 2012; O'Halloran et al., 2021). As such,

the health system may reach far beyond the walls of health institutions and related facilities if taking the avenue of school-based interventions (Departments of Health & Basic Education, 2012; Lee, Lo, & Li, 2019). When viewing these possibilities through the lens of strength-based approaches, schools can thus be utilised to explore the assets of learners, their parents and the broader community at individual, community and institutional level to create and support community-wide health and collective well-being.

Given the current scenario, Wenhold, Meuhlhoff, and Kruger (2016) maintain that more formal Nutrition Education ought to be introduced into the current South African school curriculum, even as an independent learning area. According to these authors (Wenhold et al., 2016), all schools are required to accentuate a focus on healthy food consumption practices and nutrition-related aspects within the South African school context, whether these messages form part of the school curriculum or are presented in the form of school-based health promotion interventions.

2.5.2 Value of school-based interventions aimed at health and well-being

According to Wenhold et al. (2016), school-based interventions often focus on health promotion initiatives for learners, taking the form of, e.g., feeding programmes, micronutrient supplementation or treatment programmes for worms. In this regard, studies in several countries indicate a sustainable decrease in malnutrition in the case of school-based interventions being integrated with support focused on e.g. dietary diversification, complementary feeding, fortification and supplementary food aid. Faber and Wenhold (2007) explain dietary diversification as being inclusive of food-based strategies where home-based vegetable gardens and Nutrition Education are incorporated, in combination with food diversification.

Nutrition Education can utilise various learning approaches, complemented by environmental-based strategies that aim to facilitate the acquisition of health promotion-related knowledge and skills, as well as the ability to apply this in practice (Jung, Huang, Eagan, & Oldenburg, 2019; ; Lee et al., 2019; Matingwina, 2017). In this way, unhealthy eating habits may be addressed and food-related choices may be promoted that will be beneficial to the health and well-being of not only individuals, but also their families and the broader community. According to Wenhold et al. (2016),

Nutrition Education assumes that healthy eating practices and good food choices can become a lifestyle that will form part of individuals' daily living.

Nutrition Education can form part of broader school-based initiatives, where classroom teaching and learning are integrated with active learner-centred participation and practice-based activities, with the additional option of family and community involvement (Wenhold et al., 2016). As such, Nutrition Education is typically targeted at not only knowledge acquisition but also behaviour change. Although the incorporation of Nutrition Education in school-based curricula across Sub-Saharan Africa is progressing slowly in comparison to global development, some progress has been made. Currently, the preferred method of Nutrition Education is to incorporate it as part of other existing curriculum-based learning areas (Wenhold et al., 2016).

The suggestion to follow an educational approach in support of healthy food and nutrition-related choices when incorporating Nutrition Education with existing curricula in schools was developed by the FAO in 2005. This proposal points out that the child, in addition to learning in the classroom, also learns from the school environment as well as the family and community. At school, Nutrition Education can be embedded in the curricula of different subjects, yet may also form part of extra-curricular activities and involve families and communities. The importance of the school environment being a healthy one that can promote good nutrition and health is therefore clear (Wenhold et al., 2016).

When incorporating Nutrition Education into the existing curricula, it is important to follow an approach and include content aligned with the age group and developmental stage of the learners as well as the local context (Wenhold et al., 2016). As food choice and dietary behaviour imply complex decisions, the development of critical thinking skills is important (Contento, 2011). In undertaking the current study, I remained conscious of these suggestions and suitable ways to incorporate enriching information into existing curricula.

As discussed in Section 2.4, the Departments of Health and Basic Education (2012) of South Africa joined hands in an effort to counteract malnutrition by formulating and implementing the ISHP. The primary aim of the ISHP is to address proximate health-related challenges experienced by learners (including the challenges related to

barriers to learning and development), by developing and implementing school-based interventions that may support healthy eating habits and the well-being of learners during their early school years but also later in life. As such, school-based interventions on health and well-being hold the potential value of facilitating immediate behaviour change that may be maintained later in life.

School-based interventions can engage community members in a number of ways focusing on, e.g., the provision of information, collective knowledge generation on healthy eating habits, promotion of healthy food-related approaches and beliefs, or guidance for the development of personal skills (Wenhold et al., 2016; UNESCO, 2016). By focusing on healthy eating habits, school-based interventions can contribute to reducing malnutrition, hunger and non-communicable diseases not only amongst learners but also in the broader community. Within the school context, Nutrition Education can create an opportunity in a way that is more efficient than in other settings when wanting to promote healthy eating habits, quality of life and well-being, as schools can influence learners at critical developmental stages when their eating habits and lifestyle patterns are being established, with the added benefit of potentially also reaching the learners' parents and broader community (Contento, 2011).

2.6 DEVELOPING AND IMPLEMENTING SCHOOL-BASED INTERVENTIONS

Any school-based health promotion intervention implies a process of planning, development, implementation of action plans, and evaluation of progress and outcomes, with the continued aim of promoting the health and well-being of the teachers, learners and parents of the school community. Any such intervention entails an inclusive and participatory process, involving individuals from a variety of backgrounds that may work in different settings, yet with the shared objective of positive change (Darlington, Violon, & Jourdan, 2018).

2.6.1 Determining factors for the development and implementation of school-based interventions

Because of the increasing numbers of school-based interventions in current times, ongoing research is required in this field. More specifically, ongoing studies are required that focus on the outcomes of such interventions, the key factors affecting facilitators' development and implementation thereof, and the quality of these

processes (Darlington et al., 2018). More often than not, however, research primarily focuses on the efficiency of interventions, rather than exploring the process of development, and facilitators' (e.g. teachers') experiences of the development and implementation process of the intervention. In undertaking the current study, I aimed to address the need for ongoing research in this field.

According to Wenhold et al. (2016), the development and implementation of school-based interventions is influenced by various factors, such as the different role-players involved and the adaptations required to suit the needs of the participants and unique school community contexts. As such, the outcomes of school-based interventions largely depend on the attributes of the context in which the interventions have been developed and implemented (Darlington et al., 2018; FAO, 2005). Darlington et al. (2018) as a result view the development and implementation of school-based interventions as a dynamic and complex process, rather than a linear one with clear indications of a beginning and an end. It follows that the planning and implementation of such an intervention requires an understanding of the various factors that may affect the progress and outcome of the intervention, such as the role players and their contexts.

Darlington et al. (2018) elaborate by indicating that the successful development and implementation of school-based interventions is primarily dependent on the interventions being tailored to the expectations of the participating school communities, being adapted to their identified needs and the resources that are available, yet still being adaptable enough to conquer additional challenges that may arise. To reach this goal, various strategies may be considered during the development and implementation processes. In this regard, Bennett, Cunningham and Molloy (2016) emphasise the importance of the following strategies: meetings with the participating school community to identify the potential impact of a planned intervention on workload; using language that is familiar to the developers, implementers and participants; arranging training sessions to empower the implementers; identifying the availability of support and resources that can promote health-related goals to the participating school community; and amending the school-based intervention to meet the school communities' identified needs when required (Du Plessis & Subramanien, 2014; Bennett et al., 2016; Cusack, Cusack, McAndrew, McKeown,, & Duxbury, 2018; Greenberg, Domitrovich, Graczyk & Zins, 2005).

Existing literature indicates that participating school communities can play a significant role in promoting health and well-being when actively involved in the development and implementation of school-based interventions (Bennett et al., 2016). As teachers have the obligation of offering teaching and learning of high quality standards to all learners, teachers may however feel overwhelmed when expected to become involved in school-based interventions. In addition to feeling overburdened in terms of workload, teachers may require training in project management in support of the effective development and implementation of school-based interventions when involved in these (Darlington et al., 2018; Du Plessis & Subramanien, 2014; Greenberg et al., 2005).

In addition to the concern of an intervention not always being implemented as intended or with the quality being decided upon during the initial developmental process, funding constraints may inhibit the process, as well as participants who are not sufficiently prepared or skilled to implement the intervention effectively, or limited community involvement and support. At the core of the factors determining the success of school-based interventions lie the various role-players who are involved or may become involved. In addition to being committed, the people who become involved are required to be aware of their own needs and expectations, and then take the necessary action to address these (Adelman, & Taylor, 2008; Weare, 2010).

In summary, Weare (2010) explains that effective interventions require a systematic and clear planning process that is consistent, coherent and well-coordinated. This implies collaboration and continuous communication with the various role players (Adelman, & Taylor, 2008; Whitman, & Aldinger, 2009). When such measures are in place, the probability of teachers feeling positive about the development and implementation of school-based interventions may increase.

2.6.2 Importance of school-parent-community involvement in the development and implementation of school-based interventions

As already indicated, school-based interventions are often steered by teachers, who may be assisted by other role-players such as community members, parents or even learners. If involved, external agencies typically fulfil the role of external support and facilitation of the process of development and implementation of an intervention. According to Epstein (2002), specific practices of schools and communities may

encourage families and parents to become actively involved in the development and implementation of school-based interventions. For successful involvement of the various role-players, characteristics such as reciprocal trust and consideration of one another, continued communication and open exchange of ideas, concurrence in terms of goals, and a sense of shared responsibility are important (Epstein, 2002; Nyatuka & Nyakan, 2015; St Leger, 2004).

Epstein (2013) are of the opinion that children will benefit when teachers, parents and others in the participating school community collaborate during the development and implementation of school-based interventions, working together towards a joint goal. In this regard, Epstein (2013) developed a theory on overlapping spheres of influence that depict how the home, school and community contexts can come together and interact in support of a positive outcome of a school-based intervention when implemented with learners. The three contexts can be strengthened or separated by factors such as experiences, backgrounds, opportunities, philosophies and actions. In addition, time, learners' ages, significant interpersonal relationships between individuals at school, at home and in the community as well as historical contexts may all have a potential impact on the outcome of an intervention (Nyatuka & Nyakan, 2015).

Teachers' implementation of school-based Nutrition Education interventions in an attempt to reinforce health promotion initiatives requires opportunities for classroom-based dialogue (Wenhold et al., 2016), where learners can actively partake in knowledge and skills acquisition and sharing. At the same time, homework activities on health promotion that involve learners as well as family members and potentially even community members can increase the positive effect of school-based interventions.

With regard to a suitable length for a school-based health promotion intervention, Contento (2011) indicate that between 35 to 50 hours of intervention sessions are required to facilitate better food consumption practices and attitudinal change. In confirmation, Wenhold et al. (2016) mention that at least 50 hours of health promotion sessions per year are required to ensure positive skills-related and effective behavioural changes. However, an increase in nutrition-related knowledge is said to be possible after eight hours of teaching (Nyatuka & Nyakan, 2015).

Epstein (2002) confirms that school-home partnerships are important for the successful development and implementation of school-based interventions. An inclusive school system implies the active involvement of parents and other members of the community in support of the learning, health and well-being of all learners. In such a system, a partnership with the school can assist both parents and teachers in supporting learners, while learners will generally be motivated to be actively involved in their learning process (Nyatuka & Nyakan, 2015). An additional benefit of parent involvement is that schools and teachers may benefit from the parents' expertise and assistance − in the classroom, at home and, for example, during fund-raising activities (Cilliers, 2018; Johnson & Lazarus, 2003).

Epstein (2013) describes six types of involvement that can support the establishment of effective school-parent-community partnerships. Firstly, the school can assist parents with parenting skills while the parents assist the school to understand their families and family dynamics. Secondly, continued communication between schools and parents about learners' academic and social-emotional well-being is essential. The third type of involvement entails that parents volunteer to support learners and school programmes. Fourthly, parents can become involved in learning activities at home by being equipped with information and guidance on how to assist learners. In addition, parents can become involved in decision making for the management of the school. Finally, Epstein (2013) describes collaboration between the school, home and community in terms of the utilisation of services and resources from the community, yet also through service provision to community members.

Despite the importance of parent and community involvement, schools often experience limited levels of such involvement. This can can create a barrier to favourable learning and the establishment of an optimal teaching environment (Johnson & Lazarus, 2003). On the contrary, when parents are sufficiently involved in school-based initiatives and activities, they can gain knowledge of their children, while the teachers can learn from the parents in return (Nyatuka & Nyakan, 2015). In order to create the necessary ties between schools, parents and the broader community, factors such as innovative leadership, the willingness of all stakeholders to participate, as well as an informed vision and shared responsibility by the role-players are required. To obtain effective results, aspects such as time, training, support and an understanding of the expectations of the various functions and roles

are furthermore important (Cilliers, 2018; Johnson & Lazarus, 2003; Nyatuka & Nyakan, 2015).

Collier, Keefe and Hirrel (2015) emphasise the significant role of teachers in reaching out to parents and encouraging families to become involved in the development and implementation of school-based interventions, in support of the success of such interventions. More specifically, teachers who motivate families to become involved in their children's education and establish positive relationships with the families of learners during the development and implementation of school-based interventions are in a good position to provide the necessary support to these families to engage more constructively with their children. Through such partnerships, essential services and support can be made accessible and distributed in communities by communities to the families of learners who may benefit. This implies that schools, families and communities on ground level cannot simply await service delivery and efforts to support one another by external agencies, such as the government, but need to initiate interventions and support themselves. In this manner, change can be driven from within, thereby strengthening the chances of success (Cilliers, 2018; Collier et al., 2015).

Epstein (2002) underscore the fact that families will be open to guidance by individual teachers before interacting with the broader school system or external organisations. For teachers to fulfil this role and build successful collaborative school-parent-community partnerships, they need to be enthusiastic about the various role-players working as a team, believe that all systems possess assets and resources that may be utilised, be able to act as facilitator, and be willing to participate and collaborate with others. This paradigm shift may challenge teachers to enter unfamiliar ground by searching for solutions to problems within the self and the community, rather than wait for an external entity or expert to provide solutions. Such an approach has gained field worldwide in recent years, with individuals in different kinds of communities learning how to collaborate with one another in addressing the challenges they face (Holt, Fawcett, Schultz, Berkowitz, Wolff & Francisco, 2013).

Despite the focus on an internal drive towards positive change, the potential value of external agencies introducing or facilitating the initial phases of school-based interventions cannot be ignored. However, the necessary balance needs to be

maintained between outsiders introducing possibilities or options, and insiders taking ownership and determining the detail of making plans and putting these into action.

2.6.3 General guidelines when developing and implementing school-based interventions

A repertoire of international studies provides guiding suggestions that can be incorporated during the development and implementation of school-based interventions (Doak, Visscher, Renders & Seidell, 2006; Roseman, Riddell & Haynes, 2011). An analysis of these studies indicates that school-based interventions are most effective when the focus falls on positive behaviour change and healthier lifestyle choices, rather than mere general health. Furthermore, multi-component interventions should have better results where the focus falls on nutrition-related knowledge, healthier food choices, accessibility to healthier food options, environmental sustainability and increased food production skills, or a combination of these. Thirdly, existing research reveals that food and health-related changes within the school context can lead to improved health, wellness and healthier lifestyle choices in the broader community.

As emphasized in the previous section, researchers (such as Doak et al., 2006; Roseman et al., 2011) also point out that parental involvement in school-based interventions will enhance the effectiveness of the health-related behaviour of learners, especially when applied within both the home and community-context. The inclusion of learner self-assessments is recommended for interventions, even though this may be labour intensive, costly and analytically burdensome. Closely related to parent involvement, school-based health promotion interventions have furthermore proven to be effective when community members are included during the development and implementation process, as already discussed in a previous section (Drake, Beach, Longacre, Mackenzie, Titus, Rundle, & Dalton, 2012).

For the implementation of school-based health promotion interventions, the incorporation of technology, such as applications on tablets and videos, may enhance learner engagement and learners' interest in the intervention. School-based interventions are furthermore recommended to be presented sequentially with the inclusion of developmentally appropriate strategies that are suitable to the target audience in terms of duration and intensity. Finally, short-term health promotion

interventions of less than six months have been found to result in positive outcomes (Doak et al., 2006; Nguyen et al., 2013; Roseman et al., 2011).

2.6.4 Incorporating school-based health promotion interventions into existing school curricula or Programmes

Nguyen et al. (2013) attest that the South African Government's support for the global drive to promote healthier lifestyles is demonstrated, amongst other examples, in the inclusion of the South African Food-Based Dietary Guidelines for adults and learners aged seven years and older in school-based health promotion interventions. The South African Food-Based Dietary Guidelines were developed as part of a global educational strategy by a multidisciplinary coalition comprising international and national role-players from the Nutrition Society of South Africa, the Association for Dietetics in South Africa, the Medical Research Council, the national Department of Health, UNICEF, the agriculture sector, as well as the FAO (Nguyen et al., 2013). By including these guidelines as part of existing school-based interventions, role-players have aimed to decrease the number of learners and families affected by diseases associated with malnutrition and poverty (Nguyen et al., 2013).

In support of the "school-to-home and home-to-school" drive (Epstein, 2002, p. 14) and by implication the increased involvement of schools, families and communities, Epstein (2002; 2013) suggests suitable actions for planning and implementing school-based interventions. Epstein (2002; 2013) underscores the importance of promoting collaborative partnerships between schools, families and communities; creating significant learning opportunities for learners at school, home and within the community; guiding and training teachers to work with and understand the role and value of parents; and putting measures in place to deal with possible language challenges. Furthermore, Epstein (2002; 2013) suggests that parents' needs should be determined; their work schedules be considered when envisioning parent involvement; technology be utilised to connect families and parents with the teacher, school and the classroom; a dedicated home-school coordinator (teacher) be elected to steer the process; and parents be provided with the opportunity to be involved in decision-making during the development and implementation of school-based interventions.

As an example, the HealthKick intervention (Draper et al., 2010) was developed within the context of the social ecological model with the aim of encouraging healthy eating habits amongst learners, parents as well as teachers as a way of reducing the risk of chronic diseases, more specifically Type 2 diabetes; increasing regular involvement in health-enhancing physical activity by learners, parents as well as teachers; preventing overweight and obesity, and reducing the risk of chronic diseases; and supporting the growth of a conducive environment within the school and community that may result in the adoption of a healthy lifestyle (Drake et al., 2012; Draper et al., 2010). This intervention consists of an action plan, a toolkit and a teachers' manual, with the first constituent (i.e. the action plan) grounded in international intervention guideline perspectives, such as the Action Schools! BC Planning Guide for Schools and Teachers, and the Centres for Disease Control School Health Index (Hill et al., 2015). The action plan process was intended to cover various focus areas, namely life orientation (curriculum component), food and nutrition, physical activity, health promotion for school staff, school policy and environment, as well as family and community involvement (Draper et al., 2010; Belansky, Romaniello, & Morin, 2006).

The HealthKick toolkit contains a resource guide, resource box and physical activity resource bin. The resource guide takes the form of a printed handbook that contains information about current resources from government, non-governmental organisations and industries about nutrition, physical activity and diabetes. In support, the physical activity resource bin contains basic equipment such as skipping ropes, balls, bean bags, stopwatches and whistles for learners. The resource box holds relevant information sources on nutrition, physical activity, chronic diseases and policies, and the school environment. These information sources include lesson plans and activities (Draper et al., 2010). Finally, the manual comprises the curriculum component of the HealthKick intervention, and includes information about the action plan process, resource guide and numerous other resources, for instance the South African food-based dietary guidelines (Draper et al., 2010).

Another type of intervention that has gained field within the school context entails vegetable garden initiatives at schools (Draper et al., 2010; Ruel, 2001; Waliczek et al., 2001). Laurie, Faber and Maduna (2017, p. 80) describe a vegetable garden as "a vehicle for spreading knowledge of food production, creating a culture and love for

food gardening and making the link with nutrition". School-based vegetable gardens hold many benefits and may have a positive outcome when wanting to improve learners' skills and attitudes about food practices. By encouraging and increasing vegetable and fruit consumption, learners can gain knowledge and skills on how to grow their own fresh produce, and this may in turn positively influence their dietary habits. Additionally, such projects have resulted in learners being more likely to choose healthy options such as a fruit to snack on instead of chips and sweets, and learners also consuming more water than fizzy drinks (Wenhold et al., 2016).

School-based vegetable garden projects that are integrated into the school curriculum imply the potential of providing, to some extent, locally grown fruits, vegetables and legumes that can be included in the meals offered at school as part of a school feeding scheme (Laurie & Faber, 2008). Engaging learners in the practice of planting will furthermore increase their participation in physical activity, as well as support their emotional and psychological well-being.

2.6.5 Role of teachers in health promotion school-based interventions

During the development and implementation of health-promotion interventions, teachers can fulfil different roles (Hill et al., 2015). These roles include a community civic and pastoral role, and/or being a learning area specialist, interpreter of intervention Programmes and content, facilitator of learning, and lifelong learner (Ferreira et al., 2013). To be able to fulfil these roles efficiently, teachers need to understand the community's circumstances and specific needs, requiring of teachers to be prepared to expand their knowledge and skills through engagement with parents and other stakeholders in the community (Aggleton, Dennison, & Warwick, 2010; Hill et al., 2015).

By being involved in health-promotion interventions, teachers can get the opportunity to integrate the content into the school curriculum against the background of the needs of the community, while shaping and developing the future citizens of the country (Ferreira et al., 2013). An example of such a collaboration between a school and its community that has resulted in positive change can be found in the rural community of Makapanstad (Gauteng) together with the School of Health Care Science of the University of Pretoria, where an outreach project was developed and implemented. The provision of this health promotion intervention resulted in better

prevention of communal health problems amongst the children of the community (Peu et al., 2015).

The findings of this particular project demonstrate the value of leader training and involvement in facilitating health promotion interventions and health education. Likewise, Hill et al. (2015) emphasise the importance of teacher training and support for the successful implementation of school-based health promotion interventions. In this way, teachers can fulfil the role of facilitator of learning while being lifelong learners themselves, thereby acknowledging the importance of professional development while implementing a school-based health promotion intervention (Peu et al., 2015). When being involved in the development and implementation of health promotion interventions, it remains important for teachers to develop and demonstrate competencies of coordination, communication, taking the lead, planning, as well as managing and evaluating the progress and outcomes of the intervention (Bennett et al., 2016).

Even though their work demands may have a negative impact on teachers' morale and result in feelings of being overwhelmed when expected to facilitate health promotion intervention programmes (Bennett et al., 2016), the possibility of positive change and interactive classroom discussions may motivate teachers to fulfill this role. More specifically, when teachers experience a sense of empowerment as a result of success, they may become more motivated to implement and continue with an intervention or programme that can support change (Johnson & Lazarus, 2003). In this way, teachers can play a role in enhancing healthier food-related practices amongst learners, yet also in the broader school community once learners share their newly gained knowledge and skills with others.

2.7 ENRICHING THE NATIONAL CURRICULUM AS PART OF THE WIN-LIFE INTERVENTION

The Win-LIFE intervention was the outcome of a collaboration between teachers, parents and different faculties at the University of Pretoria. It was developed with the aim of enhancing learners' and subsequently parents' knowledge, skills and attitudes about healthy food choices and nutrition-related aspects. In addition, the Win-LIFE intervention aimed to support the participating school community in terms of improved food production and food consumption practices. The CAPS curriculum served as

basis, with the existing CAPS content being enriched by the Win-LIFE intervention. For this purpose, an activity-based mode of instruction was adopted and experiential learning relied on to assist learners with the understanding and application of the content (Benecke, 2004; Goldberg, Sklad, Elfrink, Schreurs, Bohlmeijer, & Clarke, 2019; Mukamana, & Johri, 2016).

Group work and active participation were important, and colourful supportive material enhanced the quality of the lessons. Furthermore, homework activities were included that would involve the learners' parents, with the specific aim of enhancing possible knowledge transfer. As such, the Win-LIFE intervention was developed to focus on the knowledge, skills and application of content included in the current Life Skills and the Natural Sciences subjects for Grade 4 to 6 learners. As mentioned, the Win-LIFE intervention focused on improved knowledge and skills that could support healthy eating practices. Aspects such as malnutrition as well as food and nutrition security were addressed as part of the intervention (Brame & Briel, 2015; Sherman, & Muehlhoff, 2007).

In terms of the enriched Life Skills curriculum, the following themes formed part of the intervention: the importance of Nutrition Education, functions of nutrients, the food pyramid, food-based guidelines for healthy eating, food safety, planning a vegetable garden, preparing a vegetable garden, and plants. In terms of the enriched Natural Sciences and Technology curriculum, the following themes formed part of the intervention: planning a vegetable garden, preparing for a vegetable garden (soil identification and preparation, compost and crop rotation) and plants (germination, structure of plants, plants that we eat, plant life cycles and photosynthesis).

In support of the implementation process of the intervention, a teacher manual (Consult Appendices F & H) and learner workbook (Consult Appendices G & I) were developed. These documents served as resources that guided the teachers and learners (and their parents) through the topics of discussion. All the themes that formed part of the Win-LIFE intervention were presented in the guides by referring to background information, ways to implement the activities in the class, as well as homework activities for learners and sharing of information with parents.

As indicated earlier, facilitation of the Win-LIFE intervention was based on an experiential, activity-based approach to motivate learners to take responsibility for

their own learning, and interact with one another and with their family members when doing homework assignments. Furthermore, the intervention aimed to enhance social relationship skills and collaborative learning. By including practical experiences and fun activities, the possibility of skills transfer, practical application and behaviour change could potentially be enhanced.

2.8   CONCEPTUAL FRAMEWORK

I relied on the social ecological model (SEM) of Bronfenbrenner (1979) as well as Kolbs' theory of experiential learning (Kolb, 1984) in compiling a conceptual framework, against the background of a positive community psychology perspective.

2.8.1   Bronfenbrenner's social ecological model (SEM)

I partially relied on the social ecological model (SEM) of Bronfenbrenner (1979) to guide the development and implementation of the Win-LIFE intervention, as explained in this section. According to Trickett, Kelly and Vincent (1985), certain principles of the SEM are suitable and relevant when developing and implementing a school-based intervention for learners in a resource-constrained community. These principles relate to interdependence, distribution of resources and adaptation, with all of these implied by and embedded in the SEM.

More specifically, the SEM (Bronfenbrenner, 1979) positions all parts of a social context as being interrelated, and influenced by other parts. This implies that change in one part of a system will result in change in other parts. When changes occur within individuals or in relationships (e.g., when a teacher resigns from a school), the dynamics of the school will change, resulting in some roles being redefined. For example, in the current study, the transfer of one of the contact teachers and driving force behind the implementation of the Win-LIFE intervention to another school inevitably affected the implementation of the intervention, and the progress of the Win-LIFE project.

According to the SEM (Bronfenbrenner, 1979), health can be influenced by various factors captured in the physical and socio-cultural contexts, where these factors and contexts interact. Accordingly, the SEM (Bronfenbrenner, 1979) accentuates that health promotion cannot merely focus on behavioural factors, but should include multiple, environmental-level factors that may influence the specific health-related

behaviour in question. In this way, the SEM (Bronfenbrenner, 1979) foregrounds the interrelationship between individuals and their social, physical and policy environment (Bronfenbrenner, 1979). For school-based interventions to be successful, it is thus important to understand the health-related behaviour of the target population as well as the contexts in which it occurs.

The SEM (Bronfenbrenner, 1979) proposes a framework that consists of a microsystem (e.g., knowledge, attitudes and behaviours), mesosystem (e.g., peer and social networks), exosystem (e.g., workplace environment and access to services) and macrosystem (e.g., social capital, laws and policies). In this regard, Bronfenbrenner and Morris (2006) indicate that health promotion interventions will be most successful when directed across the microsystem, mesosystem, exosystem and macrosystem levels (Bronfenbrenner, 1979).

The microsystem involves the immediate contexts where individuals interact on a daily basis and experience their everyday reality, socialisation, relationships and friendships (Bronfenbrenner, 1979), with these experiences affecting both towards and away from the community (Bronfenbrenner, 1979). It follows that the community may thus affect individuals' beliefs about and behaviour towards the development and implementation of school-based interventions, while individuals may affect the beliefs and behaviour of the community (Bronfenbrenner, 1979). In this regard, Thorp and Townsend (2001) posit that school-based interventions can have a positive impact on the microsystem by enhancing learners' knowledge, skills, eating habits, and, e.g., by improving their vegetable consumption, collective health and well-being. Through school-based interventions, experiential learning can strengthen a positive attitude and favourable behaviour that can, in turn, support healthy practices (Benecke, 2004).

The factors affecting an individual within the microsystem are within the control of the individual. At this level, taste preferences (e.g., for fast foods) and insufficient nutritional knowledge and skills can create barriers to choosing healthy eating habits. Insufficient nutrition knowledge and inadequate food preparation (Bokeloh et al., 2009; Hughes, Bennett & Hetherington, 2004) have also been mentioned as possible barriers to healthy food consumption practices, together with incorrect interpretation of food labels (nutrition facts). On the contrary, nutrition-related skills are positively

related to nutrition knowledge, as well as increased intake of fruits and vegetables (Fitzgerald, Damio Segura-Pérez & Pérez-Escamilla, 2008).

In addition to their own knowledge, learners' food consumption behaviour is largely determined by their parents' nutrition knowledge and food intake practices (Mercken, Candel & de Vries, 2007). Furthermore, learners' eating patterns may be influenced by their peers. Learners tend to associate healthy foods with parents and fast food with pleasure, friendship and socialisation, expecting negative reactions from their peers when consuming healthier foods. School-based health promotion interventions however have the potential to increase the nutrition knowledge of learners and strengthen peer support for healthier food choices (Hughes et al., 2004).

The second system, the mesosystem, represents a set of microsystems, where individuals interact with one another (Bronfenbrenner, 1979). The mesosystem consists of relationships and friendships between settings such as the home, school, community and peer groups (Bronfenbrenner & Morris, 2006). In addition, the mesosystem includes factors that may influence individuals and their perceptions of, for example, the development and implementation of a school-based intervention in a resource-constrained community. During such interactions, events that occur in the mesosystem can affect the ideas, opinions and perceptions of the people involved in the development and implementation of interventions, while their perceptions will have a reciprocal effect on the mesosystem.

Within the mesosystem, the development and implementation of a school-based intervention can create the opportunity for people who are involved to work together, and cooperate, potentially resulting in improved peer relationships between learners and the people involved in facilitating the intervention (Bronfenbrenner & Morris, 2006). Through school-based interventions, both learners and parents can be supported to identify and address unhealthy eating habits. Within the mesosystem, teachers are in the ideal position to be trained and then facilitate such interventions with learners.

According to Bronfenbrenner (1979), the exosystem represents the connection between systems where individuals do not have any specific positions or environments in which they actively participate. The exosystem consists of social settings, such as neighbourhoods, support networks and the broader community that

may influence the perceptions of people who are involved in developing and implementing school-based interventions (Bronfenbrenner & Morris, 2006). Within the exosystem, school-based interventions can improve the social environment and organisational capacity of a school (Bronfenbrenner & Morris, 2006).

In the resource-constrained community where the current study was undertaken, the community context can be regarded as the exosystem. Within such a community context, existing school-based interventions imply benefits in the form of potential attitude changes by learners, parents and teachers with regard to environmental conservation and healthy eating habits (Lekies & Sheavly, 2007). In addition, the perceptions of people facilitating an intervention (such as the teachers in the current study) may affect the perceptions of other teachers, learners and parents in, e.g., neighbouring schools to become involved as well. Within the exosystem, it is furthermore possible to implement marketing campaigns in an attempt to address unhealthy food- and nutrition-related practices on a broader level.

Regardless of individuals' socio-economic status in the microsystem, the socio-economic characteristics of the environment (e.g., the neighbourhood) will influence the eating behaviour of people. Possible reasons for this influence relate to factors such as limited food availability due to potentially fewer stores being accessible that sell healthy food options (Horowitz, Colson, Hebert & Lancaster, 2004) and the presence of more fast food outlets in poor neighbourhoods. Limited access to transportation (Horowitz et al., 2004) can also limit community members' access to stores with better food selections. Hence, school-based interventions that focus on healthy and economic ways of preparing meals and selecting healthier foods when purchasing food, can be beneficial to individuals residing in such circumstances.

Finally, the macrosystem (Bronfenbrenner, 1979) entails political ideologies, cultural beliefs, societal customs, laws, policies and values within which individuals (developers and implementers) function. If successful, school-based interventions may inform policy revision, such as curriculum adaptation by including more practical components. This can, in turn, result in learners enjoying the learning experience where they use their senses, and getting the opportunity to apply their skills, and transfer their knowledge and skills to, e.g., their parents (Thorp & Townsend, 2001).

The macrosystem furthermore involves governmental policies, that will influence food pricing and in this manner affect individuals' food intake patterns due to healthy food being more expensive than less nutrient-dense options (Monsivais, Aggarwal, & Drewnowski, 2014), with price being a strong determinant of food choice in resource-constrained settings. School-based interventions can, however, support individuals in learning how to select healthier food types and meeting their needs with a limited budget. School-based interventions can furthermore support community partnerships and policies that can promote access to healthier food options. Examples of local partnerships that can influence individuals' food- and nutrition-related practices include farmer markets, vegetable gardens and farm-to-school projects. As limited availability of healthy food poses a challenge to maintaining healthy eating habits in schools, school-based interventions that include partnerships with local businesses may promote collective health and well-being. In this way, within the macrosystem, health promotion values, norms and policies can be promoted by various role-players in this system (Monsivais et al., 2014)

Pallan, Parry, and Adab (2012) highlight possible factors that may influence the health-related behaviour of a resource-constrained community. At the microsystem level, food preferences, knowledge and skills may influence the nutritional status and physical activity levels of individuals, together with parents' lifestyles, food choices and their nutritional and physical behaviour, all of which serve as examples for their children. At the mesosystem level, the school may influence nutrition-related choices and physical activity by conveying messages on healthy and unhealthy practices, or through the manner in which the school promotes physical activity at school and after school hours. At the macrosystem level, access to healthy food, food costs, available space as well as the influence of the media are all factors that may influence the decisions of community members about food- and nutrition-related aspects. Finally, the dominant culture in a community may influence food choices by determining traditional eating practices, maintaining parental influence, and communicating beliefs about healthy food.

The state of food and nutrition insecurity in South Africa can also be explained by using the SEM (Bronfenbrenner, 1979). Firstly, food and nutrition insecurity at the household level (the microsystem) can be ascribed to factors such as insufficient food production at household level together with a reliance (often unhealthy) on purchased

food items. As a result, learners' educational and physical development at individual level may be stunted by insufficient nutrition. In addition, food and nutrition insecurity can result in households having to cope with additional transport costs to medical facilities, as well as medical and or even funeral expenses.

On the macrosystem level, high unemployment rates will inevitably result in reduced purchasing practices. Furthermore, the greater community may, as a result of food and nutrition insecurity, be faced with challenges such as crime and the cost of additional law enforcement (mesosystem). On the macrosystem level, external investments may be limited due to the effect of food and nutrition insecurity. This may in turn negatively impact the microsystem, as the value of the South African rand is amongst other things, dependent on investments, with a weakened currency leading to an increase in food and living costs. These factors and influences may end in an upwards spiral that can be difficult to address.

As already indicated, school-based health promotion interventions can provide an avenue to address such a spiral of food and nutrition-related challenges. Based on the SEM (Bronfenbrenner, 1979), the development and implementation of a school-based intervention can be regarded as a product of the interaction between individuals and their environment. In the current study, individuals (teachers, principals, subject experts) cultivated the Win-LIFE intervention for Grade 4 to 6 learners to assist participating schools in supporting learners and the broader community, thereby becoming hubs of learning, care and support.

2.8.2 Kolb's theory of experiential learning

For the development and implementation of the Win-LIFE intervention, Kolb's theory of experiential learning (Kolb, 1984) was considered. According to Kolb and Kolb (2005), this theory is built on six propositions. Firstly, the improvement of learning is regarded as dependent on actively engaging learners in a process that may best enhance their learning. Such a process needs to include feedback on the effectiveness of any learning efforts and involve learners in different experiences, such as concrete experiences, reflective observation, abstract conceptualisation and active participation. Learners may as a result, be able to acquire new knowledge, skills and changed attitudes (Kolb & Kolb, 2005).

Secondly, Kolb and Kolb (2005) state that experiential learning can be best facilitated when drawing on the beliefs and ideas of the learners about a topic to be examined, tested, and integrated with new, more refined ideas. According to the third proposition of the experiential learning theory, learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. As conflict, differences and disagreement are believed to drive the learning process, moving back and forth between opposing modes of reflection and action; feeling and thinking are regarded as important when learning something new. Fourthly, learning is regarded as a holistic process of adaptation to the world, when it involves the integrated functioning of the total person (thinking, feeling, perceiving, and behaving) rather than focusing on cognition only (Kolb & Kolb, 2005). The fifth proposition of the theory states that learning results from synergetic transactions between a person and the environment. Finally, learning is regarded as a process of creating knowledge. As such, experiential learning theory specifically proposes a constructivist theory of learning, where social knowledge is created and recreated as part of the personal knowledge repertoire of the learner.

Experiential learning provides a holistic model of the learning process, and can assist individuals to learn, grow and develop (Kolb & Kolb, 2005). For this purpose, Kolb (1984) distinguishes between two dialectically related modes of grasping experience, namely apprehension (concrete experience) and comprehension (abstract conceptualisation) as well as two dialectically related modes of transforming experience, being intension (reflective observation) and extension (active experimentation). It follows that experiential learning implies a process of constructing knowledge that involves a creative tension between four learning modes that are responsive to contextual demands, being experiencing, reflecting, thinking and acting. The process of constructing knowledge is portrayed as an idealised learning cycle where the learner comes into contact with these four bases in a recursive process that is responsive to the learning situation and what is being learnt (Kolb & Kolb, 2005).

Concrete experiences imply direct practical experience, where the learner actively experiences an activity. Next, reflective observation focuses on the learner consciously reflecting on an experience, requiring of the individual to observe, examine, analyse and interpret the impact of a specific concrete experience.

However, abstract conceptualisation provides meaning to discoveries by relating them to other discoveries and other forms of knowledge. This usually results in a learner trying to conceptualise a theory or model of what is being observed. Finally, active experimentation occurs when a learner plans how to test a theory or model for a forthcoming experience and then test these plans. Learning in the cycle of experiential learning is flexible, as the process can begin at any stage of the cycle (Kolb & Kolb, 2005).

As part of the experiential learning approach and in an attempt to improve the learners' and parents' food- and nutrition-related skills and practices by means of the Win-LIFE intervention, experiential learning strategies, such as practical activities regarding nutrition, food preparation and vegetable gardening were included as part of the content. Workbooks were compiled in such a manner that the learners had the opportunity to participate in creative activities, such as colouring, drawing, making a collage using food pictures, compiling charts on fruit and vegetables, and making posters and information pamphlets for parents. By attending to the principles of experiential learning during development and implementation of the Win-LIFE intervention, the initiative implied the possible outcome of increased knowledge and competence by learners and their families in the field of food-related matters.

2.8.3 Positive community psychology as overarching ethos

Positive psychology focuses on "conditions and processes that contribute to the flourishing and optimal functioning of people, groups and institutions" (Gable & Haidt, 2005, p.13). According to Seligman (2002), the field of positive psychology, on a subjective level, is about valued experiences such as well-being, contentment and satisfaction (in the past); hope and optimism (for the future); as well as flow and happiness (in the present). When positive psychology forms an umbrella for the development and implementation of school-based health promotion interventions, the implication is a focus on, e.g., collective well-being, recognition of strengths and capacities, and characteristics of healthy individuals, school communities and effective interdisciplinary community coalitions (Seligman, 2002; Weare, 2010), with all of these potentially supporting healthy practices and positive social change.

Positive psychology theory is based on the assumption that people want to live healthier lives and further develop their own knowledge and skills (Seligman &

Csikszentmihalyi, 2000). Emphasis is placed on the strengths that may permit individuals and communities to prosper (Seligman & Csikszentmihalyi, 2000). By working from this perspective, in developing and implementing the Win-LIFE intervention, the strengths and resources available to the participants were brought to the fore, and then mobilised in support of health promotion in a vulnerable school community context. As such, I was able to view communities, schools and participants as active role-players in their own development, who want to continually grow, develop and thrive (Seligman & Csikszentmihalyi, 2000).

In line with this approach to address challenges, community psychology focuses on the application of integrated frameworks as support and intervention strategies, with a specific focus on communities' quality of life, health promotion, collective well-being and social development (Prilleltensky, 2005). Community psychology specifically builds on the interactions between individuals and the community, relying on community characteristics and processes that may influence the lives of community members (Visser & Moleko, 2012). I decided to include positive community psychology as foundation for my conceptual framework due to the emphasis placed on the promotion of health and well-being, compassion and care, respect for human dignity and diversity, social justice, self-determination and participation (Prilleltensky, 2005).

A related concept that resonates with community well-being is social capital (Visser & Moleko, 2012), which was also the underlying long-term aim for the development and implementation of the Win-LIFE intervention. In the current study, I viewed social capital as something that could have a positive effect on community-wide health and well-being through increased support on a local level, combined with community (teacher) participation. It is generally agreed that social capital will be present in all networks and community coalitions where members work together towards a shared action. As such, social capital implies the existence of networks, accompanied by mutual understandings and collaboration within and amongst community coalitions (Visser & Moleko, 2012).

2.8.4 Applying the conceptual framework for the current study

The community involved in the current study is characterised by poverty, inadequate resources, unemployment, malnutrition and a high prevalence of HIV and Aids. In an

attempt to develop and execute an empirical study that would best fit the research context, and enable me to interpret the results I obtained, I integrated Bronfenbrenner's (1979) social ecological model and the experiential learning theory of Kolb (1984) when compiling a conceptual framework. Positive psychology and community psychology formed the conceptual backdrop to this integration.

In integrating these two existing theories, the conceptual framework of this study proposes that school-based health promotion interventions, such as the Win-LIFE intervention, may bring about change at different levels of community members' contexts through experiential learning as they obtain knowledge and skills about healthy food and nutrition choices and practices. In other words, the development and implementation of a school-based health promotion intervention in one part of a system may bring about changes in other parts. The implementation of the Win-LIFE intervention aimed to support health-related changes amongst learners and their families, which implies the possibility of change in the dynamics of a broader community, as was envisioned during the development and implementation of the Win-LIFE intervention.

More specifically, as previously indicated, the microsystem involves the immediate contexts where schools (teachers) interact on a daily basis with learners and their parents. The school (teachers) may thus, for example, affect both learners' and parents' beliefs about and practices in terms of health-related behaviour through the development and implementation of supportive initiatives, while the learners and parents my in turn affect the beliefs and health-related behaviour of the wider community they reside in. In this way, the development and implementation of school-based health promotion interventions can have a positive effect on the microsystem by enhancing learners' and parents' health-related knowledge and skills, as well as their food production, food preparation and food consumption practices. As potential enablers of enriched curriculums, schools are in a position to facilitate change in terms of the attitudes and behaviours that may support health promotion practices.

Next, with regard to the mesosystem as it applies to the current study, this represents a set of microsystems where school principals, teachers, learners and parents interact with one another and are influenced by interactions between settings, such as the home, school and the wider community. In this case, the mesosystem

furthermore entailed the factors that could influence school principals', teachers', parents' and learners' perceptions of the development and implementation of the school-based Win-LIFE intervention in the resource-constrained community near Bronkhorstspruit. Through the development and implementation of the intervention, parents could be supported to identify and address unhealthy eating habits. Within the mesosystem, schools are generally considered to be in an ideal position to develop and implement teacher training on health promotion and facilitate skills-based health promotion interventions for learners.

Within the resource-constrained community near Bronkhorstspruit where this study was undertaken, the wider community context can be regarded as the exosystem. Within this community context, the development and implementation of the Win-LIFE intervention implied possible benefits in the form of potential health-related behaviour change amongst learners, as well as possible changed attitudes by parents and teachers concerning health promotion and healthy lifestyle choices. In addition, the perceptions of the developers and implementers of the intervention may have influenced the perceptions of learners, teachers and parents at other neighbouring schools, motivating them to become involved with this health promotion initiative by promoting community-wide health and healthy lifestyle choices.

Although it was not the aim of the Win-LIFE intervention, if successful, school-based interventions can have an impact on policy development. The Win-LIFE intervention for example implied the possibility of correcting some myths and motivating people to make healthier choices when purchasing, preparing and consuming food. The Win-LIFE intervention did therefore not only hold the benefit of conveying knowledge and skills, but could also provide practical guidance on how to select healthier food types within a limited budget option. The Win-LIFE intervention furthermore supported collaborative partnerships that could include partnerships with government departments, farmers and local businesses.

As indicated earlier, the development and implementation of the Win-LIFE intervention was based on Kolb's (1984) theory of experiential learning. More specifically, the intervention aimed to broaden learners' health-related knowledge and skills by engaging them in a process of experiential learning. This process included regular feedback to learners and involved different experiences, such as concrete

experiences, reflective observation and active participation. In support of engaging, attention was given to learners in the process of acquiring practical examples and applications.

In this way, the Win-LIFE intervention was developed to portray two modes of comprehending learning experiences during its implementation, namely concrete experiences and abstract conceptualisation of the content. As indicated as part of the intervention, concrete experiences entailed practical activities, where learners had the opportunity to actively experience the content that was included. Abstract conceptualisation was attended to during the development of the intervention, to give meaning to discoveries and relate them to learners' existing knowledge during the implementation process.

All of the above was done against the back-drop of positive community psychology theory. In this regard, community-related changes, in combination with interdisciplinary collaborative synergy, were taken as key factors for community capacity development and the ability to identify and address issues of concern in the community. In addition, newly established links between interdisciplinary community coalitions were viewed as the basis to facilitate the transfer of information and resources throughout a community that could enhance members' quality of life, community-wide health and collective well-being, as well as the community's ability to address the challenges they faced (Butterfoss & Kegler, 2012). As such, the Win-LIFE intervention was regarded as a potential way of facilitating change amongst learners, their families and the wider community in collaboration with key role-players involved in the development and implementation of intervention.

2.9 CONCLUSION

In this chapter, I explored existing literature that focus on aspects related to the impact of poverty; household food and nutrition insecurity in South Africa; the global prevalence of malnutrition and factors affecting malnutrition as well as food consumption practices and nutrition-related needs of South African resource-constrained communities. Hereafter, I discussed health promotion and explored the value of school-based Nutrition Education as a potential strategy to deal with malnutrition, as well as the potential role of schools in health promotion. In addition, I focused on the planning, development and implementation of school-based health

promotion interventions. I concluded Chapter 2 with a discussion of the conceptual framework that guided my research.

In the next chapter, I focus on the methodological choices I made. I explain the epistemological paradigm and methodological approach I selected, describe the case study design I used and discuss how I relied on multiple data generation and documentation strategies during my study. I elaborate on the thematic data analysis and interpretation I conducted, outline the quality criteria and explain the ethical considerations I adhered to.

CHAPTER 3
RESEARCH METHODOLOGY AND STRATEGIES

3.1 INTRODUCTION

I concluded Chapter 2 with a discussion of the conceptual framework I compiled for the current study. Based on the literature review, I planned and undertook an empirical study to investigate the manner in which interdisciplinary community coalitions within the framework of Participatory Reflection and Action (PRA) may create a platform for and inform the development and implementation of a health promotion intervention. Secondly, I aimed to explore the manner in which the content of the Win-LIFE intervention was determined, and how the intervention was developed and implemented.

In this chapter I elaborate on the methodological decisions I made. After explaining the interpretivist paradigm and qualitative approach applying PRA principles I selected, I describe the multiple case study design I utilised. I then discuss how I used document analysis, PRA-guided workshops, focus groups, semi-structured interviews, visual techniques, observation-as-context-of-interaction, informal conversations, field notes and a reflective journal as data generation and documentation strategies. I also explain how I conducted thematic data analysis and interpretation, and outline the quality criteria and ethical considerations I adhered to. As an introduction to this chapter, I provide an overview of the research process and selected methodological strategies in Table 3.1.

Table 3.1: Overview of methodological choices

PARADIGMATIC APPROACHES	
Meta-theoretical paradigm	Interpretivism
Methodological paradigm	Qualitative approach applying PRA principles

RESEARCH DESIGN	
Multiple case study design	
Selection of cases	Convenience sampling
Selection of participants	Purposive sampling: ❖ *Criterion sampling* (teacher participants) ❖ *Maximum variation sampling* (university researchers and representatives from the Department of Basic Education and the Agricultural Research Council) ❖ *Sampling by case type: Reputational case* (learner participants)

DATA GENERATION AND DOCUMENTATION	
Data generation techniques	**Data documentation techniques**
❖ Document analysis	❖ Reflective journal
❖ PRA-guided workshops and activities	❖ Verbatim transcripts of audio-recordings, field notes, reflective journal, visual data
❖ Focus groups	❖ Verbatim transcripts of audio-recording, field notes, reflective journal, visual data
❖ Semi-structured interviews	❖ Verbatim transcripts of audio-recordings, field notes, reflective journal
❖ Observation-as-context-of-interaction	❖ Field notes, reflective journal, visual data

DATA ANALYSIS AND INTERPRETATION				
Reflexive thematic analysis and interpretation				

QUALITY CRITERIA OF THE STUDY				
Credibility	**Transferability**	**Dependability**	**Confirmability**	**Authenticity**
❖ Prolonged and persistent fieldwork ❖ Peer debriefing ❖ Member checking ❖ Audit trail ❖ Reflexivity ❖ Crystallisation	❖ Thick descriptions ❖ Crystallisation	❖ Audit trail ❖ Member checking ❖ Low-inference descriptors ❖ Mechanically recorded data ❖ Crystallisation	❖ Audit trail ❖ Reflexivity ❖ Peer debriefing ❖ Multiple researchers ❖ Low-inference descriptors ❖ Mechanically recorded data ❖ Crystallisation	❖ Audit trail ❖ Member checking

ETHICAL CONSIDERATIONS
❖ Recognition of positional discrepancies that may exist between parties ❖ Respect towards participants and ethical self-consciousness ❖ Voluntary informed consent by the different groups of participants ❖ Permission for the study from the Department of Basic Education (Gauteng province) and the principals and school governing bodies of the participating schools ❖ Beneficence to ensure safety in participation ❖ Privacy, confidentiality and sensitivity towards personal information and contributions ❖ Awareness of the possible challenges related to cultural and language differences ❖ Guarding against deception, misleading participants, withholding information or misrepresenting facts ❖ Competence as a researcher

3.2 PARADIGMATIC APPROACHES

A paradigm implies a pattern, structure or framework of scientific and academic ideas, values and assumptions (Olsen, Lodwick & Dunlop, 1992). This inherently reflects a researcher's beliefs about the world (Lather, 1986). To this end, I agree with Taylor and Medina (2013) describe the paradigmatic perspective of a study as the researcher's view of reality (worldview) and the nature thereof, together with a "basic set of beliefs that guide action" (Guba, 1990, p.17).

I accordingly entered the research field with my own view on reality and a unique set of ideas, values and methods, based on my own history, background, gender, class and race (Chambers, 2008; Patton, 2002; Denzin & Lincoln, 2000). In the following sections I describe the way in which I adopted the interpretivist paradigm as meta-theory, and followed a qualitative approach applying PRA principles as methodological paradigm.

3.2.1 Meta-theoretical paradigm: Interpretivism

For the purpose of this study the participants were the most critical source of information whose opinions, views and perceptions I valued throughout our prolonged engagement. I did not aim to describe a single truth or provide objective interpretations, but rather to provide an in-depth description of the selected cases.

According to Rallis and Rossman (2003) human beings are the creators of their own worlds. Interpretivism accordingly enabled me to understand the world as seen from the subjective experiences of participants within a particular context (Cohen, Manion & Morrison, 2007). In this regard, Mertens (1998, p.11) accentuates the importance of the researcher's understanding of participants from their points of view, indicating that "the researcher should attempt to understand the complex world of lived experiences from the point of view of those who live with it". I thus attempted to do research with participants rather than on participants, thereby involving them throughout the research process (Garrick, 1999).

The interpretivist paradigm aligns with my personal view of the world as I believe that people construct their own meaning through interaction with the world around them. According to Terre Blanche and Durrheim (2002), the construction of meaning is context-specific, implying that human experiences can only be understood in relation

to a particular context. In addition, Interpretivism implies the interpretation of human behaviour on a verbal and non-verbal level, against the background of the participants' life worlds, as well as their past experiences and existing understanding thereof. Working from an interpretivist view, I thus aimed to understand the perceptions, experiences and meaning that teachers and parents from a resource-constrained community, university researchers from seven different departments, and representatives of the GDE and ARC gave to their life worlds as individuals living in their particular worlds. With this as background, I was able to develop and facilitate the implementation of the Win-LIFE health promotion intervention.

One of the advantages of utilising the interpretivist paradigm lies in the close collaboration between researchers and participants, allowing participants openly to share their experiences. In doing this, participants can describe their views of reality and thereby enable researchers to gain in-depth understanding of the participants' experiences in their natural environments (Searle & Willis, 1995). Interpretivism can thus provide researchers with different opportunities to interpret past and present experiences, co-construct meaning with participants, as well as engage in participant observation and exploration within the participants' life contexts (Terre Blanche & Durrheim, 2002; Babbie & Mouton, 2001).

Schwandt (2000, p.192) describes this process as "empathetic identification", thereby emphasising researchers' efforts to understand the subjective intent of the participants when utilizing this paradigm. Closely related, Terre Blanche and Kelly (2002:125) associate *verstehen* with "empathetic recalling", with the concept *verstehen* implying an attempt "to imagine and try to understand texts in their context". This process is associated with reflective reconstruction and the interpretation of participants' actions by analysing all data in context.

I comprehend interpretivism as a way of understanding behaviour and constructing meaning in an interactive manner (Merriam, 1998). Following Ferreira's (2006) work, I entered into several interactive relationships with the different groups of participants. During all interactions, the relationships between me (as researcher, as well as my co-researchers) and the participants, as well as the relationship amongst the participants were interactive in nature. Only through listening and interacting with the participants, was I able to understand the participants' perceptions, experiences,

suitable content to be included and the associated needs in terms of the development and implementation of the Win-LIFE intervention.

As Interpretivism emphasises an interactive mode of data generation, I selected PRA-guided workshops, focus groups and semi-structured interviews as primary data generation strategies. Thus, as an interpretivist researcher, I valued the lives and contexts of the participants characterised by multiple interpretations and grounded in cultural complexity (Denzin & Lincoln, 2000). This stance allowed me to gain an understanding of the particular social actions and the meanings attached to these (Schwandt, 2000).

In this manner, interpretivism allowed me to consider the participants' actions and communication within their natural contexts. I was therefore able to appreciate the information that was shared (Williamson, 2000) and understand the participants' sense making within their natural settings where the phenomenon occurred (Denzin & Lincoln, 2005). To this end, the Win-LIFE intervention was developed, implemented and data generation conducted within the participants' natural settings, being schools or a tertiary institution. Throughout the development and implementation process, I included interactive activities, such as the making of posters (PRA-matrices), which allowed participants to share their needs, perceptions and experiences with one another and the research team. Williamson (2006) refers to the advantage of interpretivist research being suitable for "why" and "how" questions, which require in-depth exploration of a phenomenon. Although the development and implementation of the Win-LIFE intervention was case specific and is thus limited in terms of generalisability, the results and conclusions of this study have the potential to be used as a base from which to conduct related future research in similar resource-constrained communities.

Interpretivism is occasionally criticised for lacking political commitment and not contributing to the economic challenges that participants may experience (Terre Blanche & Durrheim, 2002). Some theorists furthermore believe that, by emphasising subjective experience, interpretivists may tend to ignore the historical and social locations of subjects in material reality. According to critical theorists, interpretivist research is not comprehensive enough to incorporate a commitment to emancipatory values when undertaking a study (Terre Blanche & Kelly, 2002). However, for the

current study I do not view these concerns as limitations, as my study required an in-depth investigation of a specific phenomenon in a specific context to inform the development and implementation of future interventions of a similar nature.

3.2.2 Methodological paradigm: Qualitative research applying PRA principles

According to Henning, Van Rensburg and Smit (2004, p.36), "methodology refers to the coherent group of methods that deliver data and findings that will reflect the research question and suit the research purpose". In following a qualitative approach, I aimed to describe, make sense of and interpret social interaction in terms of the subjective meanings voiced by the participants (Denzin & Lincoln, 2000). I view the qualitative approach as suitable for my study as it allowed me to capture the manner in which the participants viewed, experienced and interpreted their own worlds (Babbie & Mouton, 2001; Janesick, 2000). This supported the purpose of my study (namely to explore and describe the experiences of the participants from their own points of view) and the nature of the data (generated in real-world settings), in turn assisting me to provide an in-depth, holistic description of the phenomenon under study (Leedy & Ormrod, 2005). Throughout, I remained cautious of my own belief in the participants' subjective experiences of reality − no single reality exists − realising that the study was context-bound and therefore needed to be described and presented in a multifaceted manner (Creswell, 2005; Leedy & Ormrod, 2005; Patton, 2002).

The application of PRA principles allowed me to obtain a detailed understanding of the participants' experiences, perceptions and beliefs. Two principles underpinning PRA-guided research that specifically apply to the current study relate to the gathering of local knowledge and the critical role of participants during the research process (Von Maltzahn & Van Der Riet, 2006). Boothroyd, Fawcett and Foster-Fishman (2004) as well as Watson-Thompson, Jessop, Hassaballa, Vanchy, Henderson and Moore (2020) indicate that the active involvement of participants in the planning, development and implementation of health promotion interventions requires a participatory approach to research and development. As such, I viewed the participants as experts because of their local knowledge of the context and their experiences with the specific health-related challenges (Von Maltzahn & Van Der Riet, 2006), and potential ways of addressing these.

Creswell (2005) asserts that a qualitative approach is suitable when addressing research problems that involve the exploration of a topic where little is known about a problem, and/or where the research intends to present a detailed understanding of a central phenomenon. To this end, I aimed to obtain insight into and provide in-depth descriptions of a phenomenon and the lived experiences of participants in their natural situations, making sense of and interpreting what I set out to explore in terms of the meaning that was ascribed to the development and implementation of the health promotion intervention by the participants not being predetermined or controlled by me (Patton, 2002).

Chambers (2004) as well as Von Maltzahn and Van Der Riet (2006, p.115) assert that the value of PRA-guided research relates to aspects such as this approach acknowledging complex communities and being useful when explaining complex community challenges in complex systems. Furthermore, the application of PRA-principles contributed to my understanding of the participants and their views, allowed for visual, sensitive and concrete strategies to be used focused on practical discussions while seeking community-specific solutions, and was empowering as the research process could be guided by the participants.

As a qualitative participatory researcher, I aimed to maintain a balance between an insider and outsider view (Kelly, 2014). I attempted to provide an insider (emic) perspective during the data generation process whilst trying to understand and express the views and opinions of insiders (participants) within their unique contexts. My study, however, did not end with the mere understanding of the participants and their reality, but proceeded to include my interpretation of what I had learnt. In order to do this, I made use of an outsider (etic) approach to express the interpreted perceptions, views, categories and concepts of outsiders (myself and my co-researchers). As such, I did not simply aim to understand, but also to actively interpret the participants' voices by focusing on a truthful description of the voices of the insiders, while at the same time striving to address my research questions as an outsider. Becoming a true insider during the PRA-guided research process could have been hindered by factors such as my ethnicity, home language, socio-political background and research agenda, causing me to continuously engage in reflexive research practice.

In following a qualitative approach, while being guided by PRA-principles, I had to consider two potential limitations. Firstly, I had to keep in mind that the findings of my study cannot be generalised to larger populations or other contexts (Babbie & Mouton, 2001). However, the findings may be transferred to similar contexts, requiring of me to include detailed descriptions of the research process in this thesis. Secondly, the design of the current study was taken as "an emergent design" (Babbie & Mouton, 2001) and did therefore not, as in the case of quantitative research, involve a fixed step-by-step plan, thereby allowing me to "create the design best suited" as the research progressed (De Vos et al., 2005, p.83). This flexibility of qualitative participatory research allowed me to adapt and make the necessary changes when needed, thereby enabling me to uncover information about the different groups of participants and their ever changing social worlds as the study progressed (De Vos., 2005; Babbie & Mouton, 2001; Neuman, 2000).

Another challenge often associated with qualitative research applying PRA-principles is that it may be time consuming. More specifically, qualitative research can take up considerable time when researchers conduct in-depth interviews, transcribe audio-recordings, compile field notes and reflections, conduct data analysis, employ member checking or share the results with participants. I acknowledged this challenge and as a result allowed sufficient time for the research process and report writing to be done (McMillan & Schumacher, 2014; Farquhar et al., 2006).

Furthermore, challenges associated with PRA research include the role of participants whose opinions may not have been taken into account in the past (Von Maltzahn & Van Der Riet, 2006), the potential inclusion of vulnerable participants, and for to participants to take a leading role (Von Maltzahn & Van Der Riet, 2006). I remained aware of these potential pitfalls and attempted to address them by establishing sound relationships with the participants, regularly conveying the message that they were the experts who held the key to determining the content of the Win-LIFE intervention; ensuring prolonged engagement in the field; and regularly engaging in debriefing and reflection sessions with my co-researchers and supervisor.

3.3 RESEARCH DESIGN AND SELECTION PROCEDURES

In this section I describe the research process, research design, as well as the selection of cases and participants.

3.3.1 Research design

I support Creswell's (1998, p.2) description of a research design as "the entire process of research from conceptualizing a problem to writing the narrative". The research design links with the purpose of a study and the formulated research questions, aligns with the methodological paradigms and strategies, and ultimately informs the findings and conclusions, in a logical manner. For my study and to be able to address the research questions, I selected a multiple case study research design, which is defined by Nieuwenhuis (2007, p.75) as "a comprehensive (holistic) understanding of how participants relate and interact with one another in a specific situation and how they make meaning of a phenomenon under study". In support, Curtis, Murphy and Shield (2013) view a multiple case study as an instance or bounded unit that is not singular in form, but rather multiple and diverse.

Case study design research is generally associated with qualitative studies and the use of multiple sources, capturing multiple perspectives (Nieuwenhuis, 2007; Cohen et al., 2007). Hence, in the current STUDY, I relied on a variety of data generation and documentation techniques including document analysis, focus groups, PRA-guided workshops and activities, semi-structured interviews, observations, audio-visual techniques, field notes and a reflective journal.

A multiple case study design is regarded as suitable for research that aims to provide descriptions, test a theory or contribute to theory-building (Eisenhardt, 1989). Eisenhardt (1989) defines this kind of theory-building as the process of utilising one or more cases to generate theoretical constructs, propositions and/or a theory from case-based empirical evidence. As the current study focused on obtaining an in-depth understanding of the development and implementation of the Win-LIFE intervention by following a collaborative approach, the findings may contribute to theory-building in the fields of community coalition action theory as well as school-based intervention development and implementation.

By being the researcher yet also part of the research process, I faced the challenge of my own subjective thoughts and opinions potentially affecting the research (Cohen et al., 2007). In an attempt to avoid this from occurring, I kept a reflective journal to reflect on my subjective thought processes, remain conscious of these and minimise any biased influence. As in the case of qualitative and interpretivist studies, a case study design is limited in the sense that the findings are not generalisable (Nieuwenhuis, 2007; Cohen et al., 2007; Curtis et al., 2014). As already indicated, my aim was to obtain an in-depth understanding of the development and implementation of a specific intervention through collaborative community coalitions in a specific resource-constrained community, involving a context-specific focus rather than obtaining findings that can be generalised. However, the findings and conclusions may be transferred to similar contexts, depending on the reader's judgement of the levels of similarity.

3.3.2 Background information on the research site

The selected research site forms part of region 7 of the City of Tshwane district municipality (Gauteng), just north of Bronkhorstspruit and southwest of Ekangala IN South Africa. This community can best be described as an urban area with low population density, characterised by a high unemployment rate (26% of economically active persons are permanently unemployed) and incidence of informal housing (shacks in an informal or squatter settlement or on a farm). Photographs 3.1 and 3.2 provide visual images of the geographic location of the selected research site on the South African map, whilst Photographs 3.3 and 3.4 depict visual images of the variety of housing found in the community.
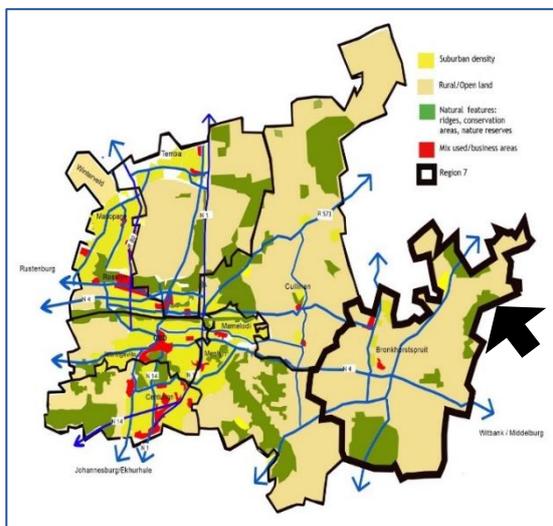
Photograph 3.1: Geographic location of the research site

Photograph 3.2: Satellite image of the research site

Photograph 3.3: Example of informal houses in the resource-constrained community

Photograph 3.4: More formal housing also presents in the community

Other challenges generally experienced in the community include households being swamped and soaked by water; limited provision of basic services of water, sanitation and electricity; as well as a lack of sufficient health services and clinics, maintenance of roads and the upgrading of the draining system. The region contains some of the best farming land in Gauteng, yet has a rather weak spatial structure, characterised by open spaces, small economic centres, significant volumes of traffic and a relatively young population, with the age groups 30 to 34 years and younger being the largest (Statistics South Africa, 2012).

The selected research site consists of a population of 31 709 people, with 9 321 dwelling units (out of a total of 31 064 dwelling units in the region) and an average of 3,4 people per household. Public transport, specifically in the form of non-motorised transport (bicycles and walking), is central when short distances are travelled. In addition, citizens make use of mini-buses and buses, which are common forms of public transport in South Africa. The research site furthermore forms part of a region that has relatively low educational levels, with only a few people holding tertiary qualifications (Statistics South Africa, 2012).

3.3.3 Selection of the three cases

As indicated in Chapter 1, I conveniently selected primary schools as cases within a resource-constrained community near of Bronkhorstspruit (Gauteng) to participate in

my study (Patton, 2002; McMillan & Schumacher, 2014). This selection procedure was based on the fact that my study formed part of a broader project that commenced in 2012 and involved these particular three schools.

According to Mertens (1998), convenience sampling implies the selection of cases or participants that are easily accessible and readily available. As part of the broader Win-LIFE project, I thus merely joined the research team and continued working with the participating schools. In addition to accessibility of the three schools (cases), sound relationships had already been established between the school stakeholders and the primary research team when I joined the team (Smit & Fritz, 2008), implying the advantage that I did not have to spend too much time on building rapport or gaining access to suitable schools.

Photographs 3.5 to 3.7 provide visual images of the three selected primary schools. In terms of size, School A had 1 314 registered learners at the time of my study, School B had 1 053 registered learners, and School C had 1 498 registered learners.

Photograph 3.5: School A (2016)
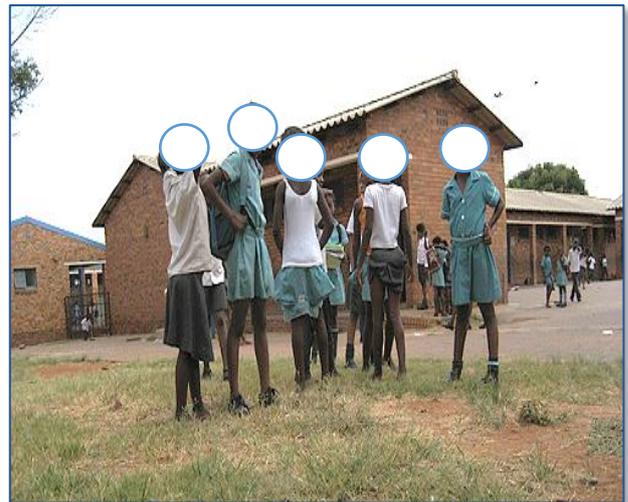
Photograph 3.6: School B (2016)

Photograph 3.7: School C (2016)

As convenience sampling implies the possibility of participants not reflecting a true representation of the broader community (Nieuwenhuis, 2007), the findings of case study research are not generalisable to the broader population. In line with my selected epistemology, research approach and design, I did not aim to obtain generalisable findings, but rather to gain a deep understanding of the perceptions of the participants from a selected resource-constrained community, within a specific at-risk context, during a specific timeframe (February 2013 to October, 2016). As already noted, the findings may be transferable to similar contexts (Seale, 1999; Stake, 2000).

3.3.4 Selection of participants

As indicated in Chapter 1, I utilised purposive sampling to select the different groups of participants, according to specific selection criteria, with the aim of involving participants who would be able to provide the information I required to address my research questions. The overall aim of the current study was to develop a detailed understanding and describe a specific phenomenon, practices, expectations and opinions of people (Patton, 2002; Leech & Onwuegbuzie, 2007; Creswell, 2012). For this purpose, I focused on the participants' voices (participants involved in community coalitions) and a specific community (resource-constrained community) within a specific context (high levels of household food insecurity, poverty, unemployment and limited resources), environment (Gauteng, north of Bronkhorstspruit and southwest of Ekangala) and time (February 2013 to October 2016).

According to Patton (2002), different strategies can be followed for purposeful sampling. Of the various options, I employed criterion sampling (Patton, 2002), which is regarded as a variation of purposive sampling during the selection of the school principals (n=3), deputy principals (n=2) and teacher participants (n=30; n=24; n=13) for the current study. The selection criteria I applied for all the various groups of participants are summarised in Table 3.1.

Next, I relied on maximum variation sampling (Patton, 2002) for the selection of university researchers (n=15) and representatives from the Agricultural Research Council (ARC) (n=2) and the Gauteng Department of Basic Education (GDE) (n=2). My reason for following this procedure can be linked to the interpretivist paradigm I employed, with the associated aim to include multiple perspectives, opinions and

expectations from different individuals thereby attending to diversity and the complexity of the world (Creswell, 2012).

Finally, I relied on reputational case sampling when selecting the Grade 5 learner participants (n=31) during the re-implementation phase of the Win-LIFE intervention between August and October 2015, in collaboration with MEd students who completed their studies under my co-supervision. Reputational case sampling is often utilised when researchers attempt to obtain the recommendations of well-informed authorities for the best possible examples (McMillan & Schumacher, 2014). During this phase of the project, we approached the principal of School B, as well as the volunteer teacher who supported the implementation of the Win-LIFE intervention during the initial implementation process, relying on their guidance for the most suitable group of learners to include.

In relying on purposeful sampling, I had to remain cautious of the challenges and potential limitations associated with this procedure. As the different groups of participants were selected solely based on the criteria I formulated in discussion with the other members of the research team, the selection can be regarded as subjective and biased (Babbie & Mouton, 2001). However, as this study forms part of the broader Win-LIFE intervention project where attention was paid to selecting the best possible participants, I am of the view that the selections were free of bias.

Table 3.2: Selection criteria for the various groups of participants

PARTICIPANTS	SELECTION CRITERIA
School principals (n=3) Deputy principals (n=2) Teachers (n=30; n=24; n=13)	❖ All Intermediate Phase (Grade 4 to 6) teachers from the three selected primary schools in the Bronkhorstspruit area. ❖ Principals and deputy principals from the three schools who were available to participate. ❖ Participants had to be older than 18 years of age. ❖ Participants had to be able to communicate in English. ❖ Participants had to be willing to participate and provide consent. ❖ Participants had to be involved during the first phase of the project.
University researchers (n=15) Representatives from the ARC (n=2) Representatives from the GDE (n=2)	❖ I selected participants that differed regarding some characteristics (e.g. different departments within the university and government; different age groups; different genders) (Creswell, 2012) to present multiple perspectives (Leech & Onwuegbuzie, 2007). ❖ Participants had to be older than 18 years of age. ❖ Participants had to be willing to participate and able to communicate in English.

PARTICIPANTS	SELECTION CRITERIA
	❖ Participants had to be knowledgeable within the field of community-wide health, collective well-being, household food security and malnutrition, health promotion, health-related interventions, as well as food-consumption practices and nutrition-related needs of resource-constrained communities.
Grade 5 learners (n=31)	❖ Learners had to be recommended as suitable participants by the school principal and volunteer teacher who could benefit from the intervention. ❖ Learners had to be able to communicate in English. ❖ Learners had to be willing to participate and provide informed assent. ❖ Learners' parents had to provide informed consent.

3.3.5 Overview of the research process

As explained in Chapter 1, the broader Win-LIFE project involved several postgraduate studies. As part of the baseline data for my study, I supervised two MEd (Educational Psychology) students (Cook, 2016; Kumalo, 2017), working alongside them during field visits and guiding them during the data analysis process. These students explored the participants' (teachers and parents respectively) ideas on suitable content for a health promotion intervention to be developed and implemented with the Grade 4 to 6 learners of the school. Photographs 3.8 and 3.9 provide visual images of the baseline data generation process, which took the form of PRA-guided workshops with teachers (n=45) for Cook's (2016) study and with parents (n=23) for Kumalo's (2017) study.

Photograph 3.8: Baseline data generation with parents

Photograph 3.9: Baseline data generation with teachers

The data generated for the two MEd studies during Phase 1 of the broader project formed the foundation for the collaborative development and implementation of the Win-LIFE intervention, with me being guided by the needs and views of the teachers and parents of the community in exploring suitable content to include. In addition to relying on the data that was generated for these two studies, I completed a document analysis of different national and international policy documents, programmes and initiatives as background to my study and the development of the intervention. In addition, I utilised two focus groups with university researchers at the University of Pretoria, focusing on their ideas for possible content for a health promotion intervention. For the same purpose, I also conducted semi-structures interviews with representatives of the GDE and ARC as well as with the school principals and deputy principals of the participating schools.

Hereafter, I developed a preliminary intervention that aimed to enrich the current South African school curriculum (CAPS) for Grade 4, 5 and 6 learners in two subjects, namely Life Skills, Natural Sciences and Technology. At its core, the Win-LIFE intervention aimed to enhance learners' basic understanding and knowledge related to Nutrition and Environmental Education.

After developing the preliminary intervention, I facilitated a PRA-guided workshop (April 2014) with the Grade 4, 5 and 6 teachers (n=30) from the three participating schools as member checking, in terms of the content included in the proposed intervention, yet also to obtain teachers' ideas and suggestions concerning the future implementation of the Win-LIFE intervention. Photographs 3.10 and 3.11 provide visual images of this PRA-guided workshop with the teachers from the participating schools, conducted at the University of Pretoria.

Photograph 3.10: PRA-guided workshop with teachers, focusing on discussions of the preliminary intervention

Photograph 3.11: Preliminary educator's guide

As the Win-LIFE intervention focused on activity-based learning that could elaborate on what is already included in the CAPS, many concrete activities were included, thereby underscoring the practical application of healthy eating habits and lifestyle practices. In addition to enriched classroom activities, homework activities were developed and included for completion by learners in collaboration with their parents or guardians. The purpose of this part of the intervention was to create awareness of healthy food choices and lifestyle practices amongst the parents or family members of the participating Grade 4 to 6 learners.

Following the PRA-guided workshop in April 2014 and the input received from the various groups of participants, I finalised the intervention and trained teachers n=24) from the three participating schools to implement the enriched curricula in their classrooms. The first round of implementation was done between August and October 2014 by the 24 teachers that attended the training, as captured in Photographs 3.12 and 3.13. However, observation of this phase of implementation at the respective primary schools indicated that the intervention had not been implemented as intended. When enquiring about the teachers' experiences they indicated that they felt over-burdened with their teaching workload and viewed the implementation of the intervention as another addition to the work they were already expected to do. Furthermore, not all the principals and deputy principals seemingly supported and motivated the teachers to implement the Win-LIFE intervention as initially intended, probably due to some of these positions being filled by new

personnel who had not been part of the initial discussions of the project, or the role that the schools and teachers would fulfil.

Photograph 3.12: Implementation at School A

Photograph 3.13: Implementation at School C

In consultation with the three school principals the research team then decided to re-implement the Win-LIFE intervention with one Grade 5 group of learners in one of the three schools to be better able to determine the potential effect of the intervention. The second round of implementation took place between August and October 2015 during 22 sessions that were facilitated by two MEd students (Bentley, 2017; De Vos, 2017) and me. Photographs 3.14 and 3.15 provide visual images of the re-implementation of the Win-LIFE intervention with 31 learners at School B. Following re-implementation of the intervention, a fellow doctoral student (Ngwenya, 2018) explored the outcome of the intervention as experienced by the teachers and the parents.

Photograph 3.14: Re-implementation of the Win-LIFE intervention

Photograph 3.15: Grade 5 learners engaging in group work during re-implementation of the intervention

3.4 DATA GENERATION, DOCUMENTATION AND ANALYSIS

Since the purpose of my study was to explore and describe the development and implementation of a school-based intervention, I involved various groups of participants and utilised multiple data generation and documentation techniques (Yin, 2012; Creswell, 2014). Table 3.3 provides an overview of the various field visits and data generation activities I undertook.

Table 3.3: Overview of field visits

FIELD VISIT	DATE	ACTIVITIES	PARTICIPANTS	MY ROLE DURING THE FIELD VISIT
1	February 2013	6 (3 x 2) PRA-guided workshops and activities Observation Ad hoc conversations	Forty-five teachers from the three participating primary schools Twenty-three parents from the three participating schools	Co-facilitator Observer Field notes Audio- and visual recordings Data analyst
2	September 2013	Member checking session (x 3) Observation Ad hoc conversations	Thirty-six teachers from the three participating primary schools	Co-facilitator Observer Field notes Audio- and visual recordings Data analyst
3	November 2013	Focus groups (x 1) Observation Ad hoc conversations	Fifteen university researchers from five departments at the University of Pretoria	Researcher Facilitator Observer Field notes Audio- and visual recordings Data analyst
4	April 2014	PRA-guided workshops and activities (1 x 3 hour session) Observation Ad hoc conversations	Thirty teachers from the three participating schools at the University of Pretoria	Researcher Facilitator Observer Field notes Audio- and visual recordings Data analyst
5	May 2014	Semi-structured interview (x 1) Observation Ad hoc conversations	Two representatives from the ARC	Researcher Observer Field notes Audio-recordings Data analyst
6	June 2014	Semi-structured interview (x 1) Observation Ad hoc conversations	Two representatives from the GDE One representative from the ARC	Researcher Observer Field notes Audio-recordings Data analyst
7	July 2014	Member checking session (x 1) Teacher training (1 x 2-hour session) Observation	Twenty-four teachers from the three participating schools	Researcher Observer Facilitator Field notes Audio-recordings Data analyst

FIELD VISIT	DATE	ACTIVITIES	PARTICIPANTS	MY ROLE DURING THE FIELD VISIT
		Ad hoc conversations Semi-structured interviews (x 1)	Three principals and two deputy principals from the three participating schools	
8-16 (9 field visits)	August to October 2014	Observation of implementation of the Win-LIFE intervention Ad hoc conversations Semi-structured interviews (x 1)	Grade 4 to 6 teachers from the three participating schools Three principals and two deputy principals from the three participating schools	Researcher Observer Field notes Visual recordings Data analyst
17	March 2015	Semi-structured interviews (x 1) Observation Ad hoc conversations	Three principals and two deputy principals from the three participating schools Two representatives from the ARC	Researcher Observer Field notes Visual recordings Data analyst
18-39 (22 field visits)	August to October 2015	Implementation of the Win-LIFE intervention Observation Ad hoc conversations	31 learners from one primary school	Co-facilitator Observer Field notes Visual recordings Data analyst
40	November 2015	Informal questionnaire Focus group discussion (x 1) Observation Ad hoc conversations	13 teachers from the three participating schools	Researcher Facilitator Observer Field notes Visual recordings
41	July 2016	Member checking session Observation Ad hoc conversations	31 learners from one primary school	Observer Field notes Audio- and visual recordings Data analyst
42	September 2016	Member checking session Observation Ad hoc conversations	31 learners from one primary school	Observer Field notes Audio- and visual recordings Data analyst

3.4.1 Document analysis

I agree with Merriam (1988, p.118) who asserts that document analysis "can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem". I accordingly relied on document analysis as systematic process to study existing documents in support of my understanding of existing content as background to the current study (Ritchie & Lewis, 2003). As such, I employed document analysis to inform, complement and supplement the generated data (Creswell, 2014) during the development and implementation of the Win-LIFE

intervention. To this end, document analysis enabled me to gain an in-depth understanding (Rapley, 2007) of the existing international and national strategies, Programmes and policies that had been employed in an attempt to address food and nutrition insecurity, chronic poverty and non-communicable diseases.

In an attempt to produce empirical knowledge and develop my own understanding of the phenomenon under study, I continuously strived towards maintaining a balance between objectivity and sensitivity (Creswell, 2012). In order to do this, I selected documents cautiously, despite document analysis being regarded as "a rich source of data" (Bowen, 2009, p.33). The national documents I analysed were the South African National School Nutrition Programme (NSNP, 2004), the Care and Support for Teaching and Learning Programme (CSTL, 2008), the Action Plan to 2014: Towards the Realisation of Schooling 2025 (2009), the Curriculum and Assessment Policy Statement (CAPS, 2012), the Integrated School Health Policy (ISHP, 2012) and the Fetsa Tlala Integrated Food Production Initiative (2013). For insight in terms of international examples of interventions, I analysed the Health Promoting Schools Initiative (1997), the Millennium Development Goals (MDGs, 2000) and the Sustainable Development Goals (SDGs, 2014).

Bowen (2009) asserts that document selection should be based on both the quality and content included in the documents, whilst keeping the background and purpose of the study in mind. Throughout the development and implementation of the Win-LIFE intervention, I thus continually searched for documents to fill possible gaps and avoid "biased selectivity" (Yin, 1994, p.80). Even though both Yin (2012) and Creswell (2012) indicate irretrievability as a potential limitation inherent to document analysis, I did not experience this limitation, as all the included documents were easily retrievable and accessible.

By including document analysis as data generation strategy I could rely on the benefit of generating data at a relatively low cost due to the availability and accessibility of national and international documents in the public domain that I could rely on as supplementary data (Creswell, 2012). Furthermore, document analysis allowed for repeated reviews where needed, and could be done unobtrusively of any participant or the research process. Even though document analysis is typically less time-consuming than other data generation strategies, I utilised this as supplementing

strategy only, in addition to other time-consuming techniques (Bowen, 2009). However, the use of multiple techniques allowed for triangulation and supported the rigorous process involved in the development of the Win-LIFE intervention. According to Yin (1994), the use of documents is specifically advantageous in terms of the inclusion of exact references, details of events and names, which I also experienced. In addition, through document analysis, I was able to track changes and developments that had occurred over time (Yin, 1994).

3.4.2 PRA-guided workshops and activities

In addition to co-facilitating several PRA-guided workshops in collaboration with other postgraduate students working in the broader project (some under my supervision), I facilitated a PRA-workshop with teacher participants (n=30) from the three selected primary schools in April 2014, following the development of the intervention. The workshop lasted for five hours and focused on refining the proposed intervention and initial draft guides in discussion with the teacher participants. For this purpose, participants were requested to work in groups and discuss the content of the preliminary Win-LIFE intervention in small groups. In this way, participants' knowledge, perceptions and insights regarding suitable content to be included could be explored and visually captured by them on posters.

After each section of the proposed Win-LIFE intervention had been discussed in small groups, the groups presented their views to the larger group. Throughout, I made use of prompts and guiding questions when teachers seemed not to understand a question or if it appeared as if they "got stuck" (Ebersöhn & Ferreira, 2012, p. 90). The content of the recordings as well as the visual posters were transcribed for the purpose of data analysis (Halcomb, & Davidson, 2006). Throughout, I took photographs to capture the proceedings and contributions of the participants (Chambers, 2008). Photographs 3.16 and 3.17 provide visual images of the PRA-guided workshop I facilitated in April 2014.

Photograph 3.16: Teacher participants from involved in small group discussions
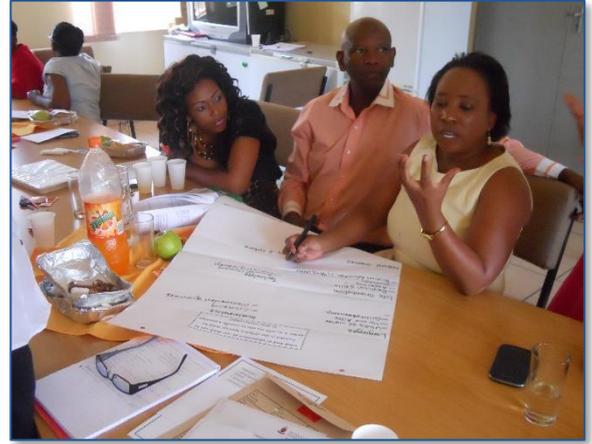
Photograph 3.17: Teacher participants from School C providing feedback to the broader group

3.4.3 Focus groups

Following the PRA-guided workshop, I analysed the data to identify emerging themes (Braun & Clarke, 2013). During another field visit to the three primary schools (July, 2014), I did member checking (Creswell, 2014; McMillan & Schumacher, 2014) to confirm or adjust my interpretation of the participants' initial responses. In addition, I used these sessions to train the teachers (n=24) how to implement the Win-LIFE intervention in their classes in the months to follow (McMillan & Schumacher, 2014). Upon presenting the reworked content to them, the teacher participants indicated general consensus and raised only a few additional ideas that I captured in the form of field notes.

My decision to include PRA-guided activities for data generation relates to such techniques being fun, relaxed and informal in nature. These activities typically draw on participants' thinking in a creative manner and allow for participants to take the lead in discussions (Cornwall & Pratt, 2010). As I opened discussions and relied on interactive and visual methods, participants seemingly remained interested and engaged, having taken over some of the power in the research process (Chambers, 2008).

From their feedback, it was clear that participants enjoyed the PRA-guided workshops they participated in, which were characterised by sound relationships between the participants and the research team (Cornwall & Pratt, 2010). As rich data was generated during the PRA-guided activities, the use of this strategy allowed for data

generation in a time-effective manner. The fact that activities were conducted in small groups furthermore seemingly resulted in participants feeling less intimidated, and more willing to be actively involved in discussions and the research process.

A potential limitation often associated with PRA-guided research relates to the quality of the data that is generated during such workshops and activities (Cornwall & Pratt, 2010). Although I facilitated the PRA-guided workshops in a flexible manner, all data generation sessions were planned and prepared for well in advance to ensure that these could be conducted in a meaningful way, thereby contributing to the broader research project (Chambers, 2012). The way in which I facilitated and observed the research process was furthermore continually guided by quality criteria (discussed later on in this chapter) in an attempt to ensure rigour.

3.4.4 Focus groups

According to Berg and Lune (2012), focus groups entail guided or unguided discussions on a particular topic of interest or relevance to the researcher and the participants. I facilitated a focus group with university researchers (n=15) from five different departments of the University of Pretoria in November 2013. During this session, I aimed to obtain different perceptions of suitable content for the Win-LIFE intervention. For this purpose I attempted to create a non-threatening setting where data generation could take place in circumstances that are both inductive and naturalistic (Krueger, 1994). Throughout, I ensured that the discussion remained focused and that everyone's voices were heard and opinions expressed. In November 2015 I facilitated a second focus group discussion with teachers (n=13) where the discussion focused on the implementation as well as on the challenges and support the teacher participants had experienced during the process of implementation of the Win-LIFE intervention in 2014.

The use of focus groups in this study proved to be valuable in the sense that this strategy allowed me to "generate large quantities of material from the group in a short period of time", gaining "powerful interpretive insights" (Kamberelis & Dimitriadis, 2005, p. 903). I was thus able to gain rich information about possible content to include in the Win-LIFE intervention from scholars in the field; and later from practitioners that had implemented the intervention. In this manner, I could explore the personal views of the participants. To this end, I relied on Interpretivism to unravel

the voices and knowledge shared by the university researchers and teacher participants. As a result, I was able to obtain rich accounts of the participants' opinions and of the experiences of implementing the intervention.

Even though focus groups are regarded as suitable when generating data in qualitative research, some limitations do exist. Due to the small number of participants, the findings of this study can, for example, not be generalised, as meaning making will vary and differ across situations and contexts of human interaction. However, with the current study I aimed to gain an in-depth understanding of the development and implementation of the Win-LIFE intervention from the perspective and experiences of the participants, without the purpose of generalising the findings.

Focus groups are furthermore often critiqued for the possibility of dominant voices of one or two participants determining the discussions. To this end, as a researcher who is also a trained psychologist, I relied on my experience of facilitating group discussions when implementing this data generation method. I guarded against individuals dominating the discussions and encouraged everyone to participate since I valued the diversity of views and participant experiences. In my attempt to involve all participants, I made use of prompting, silences and the re-direction of questions to other participants (De Vos et al., 2000; Berg & Lune, 2012).

3.4.5 Semi-structured interviews

I conducted three one-hour semi-structured interviews (Denzin & Lincoln, 2000; Patton, 2002) with two representatives from the ARC and GDE each, as well as with the school principals and deputy principals (n=5). In explaining the value of semi-structured interviews for qualitative studies, Fontana and Frey (2005, p.707) emphasise the importance of finding informants that are insider members of a group that is studied "who are willing to be an informant and act as a guide and a translator". At its core, interviews have the purpose of understanding how interviewees perceive the world and interpret meaning related to a phenomenon under study − in this case the development and implementation of the Win-LIFE intervention (Denzin & Lincoln, 2000).

Cohen et al. (2007) affirm that a research interview entails a conversation with the goal of gaining information that is relevant to a study. In the current study, I was able to take advantage of these face-to-face dialogues, which allowed for on the spot clarification and elaboration of issues that required more in-depth explanations. The opportunity to probe for more details is a distinct advantage of interviews that I experienced first-hand. In this way, participants were able to open up even further and elaborate on the meaning of their experiences from their points of view when I prompted them to do so (Patton, 2002).

As I ensured that sound rapport had been established prior to conducting any interview, the participants seemingly revealed deep-level information. By developing relationships with the participants, they appeared to feel at ease to share their views with me. I also remained flexible and created an environment in which ongoing dialogues about the participants' experiences were possible.

I captured the detailed voices of the participants by using an audio-recorder after obtaining their permission to record the discussions. The audio-recorded interviews were then transcribed verbatim, allowing for storage of the information as is (verbatim). This in turn strengthened the possibility of representing the true voices of the participants when discussing the results of the study by including examples of the contributions that were made in my discussions in Chapter 4. I thus agree with Merriam and Simpson (1995, p.101) that data needs to be presented "in the form of quotes from interviews, episodes from field observation, evidence to adequately and convincingly support your finding".

3.4.6 Visual techniques

Visual data does not refer to data that is captured by camera only, but includes any other data that is observed and can be captured (Silverman, 2014). In order to enrich and substantiate (crystallise) the evidence of my interpretivist study, I thus included photographs and the PRA-matrices or posters that the participants compiled (Walsh, 2007). Visual documentation assisted me in constructing a detailed illustration of the participants, research activities and the resource-constrained community where my research took place (Ebersöhn & Eloff, 2007). In addition, visual data (posters and photographs) allowed the participants to generate their own knowledge (Chambers,

2008) and was useful to capture non-verbal behaviour and preserve rare moments that could otherwise have been lost.

Apart from the posters that the participants created (PRA-matrices), I used photographs to capture all data generation sessions and the data that was generated (Ebersöhn & Eloff, 2007), including the posters that were compiled. More specifically, I captured visual data in the form of PRA-matrices or posters (Photographs 3.18 and 3.19) as evidence of the data generation process I engaged in as well as photographs of all data generation activities. In this way, I could capture the activities and non-verbal messages that were observed during the PRA-guided workshops, focus groups as well as informal conversations that transpired during the numerous field visits to the participating resource-constrained community.

Photograph 3.18: An example of visual data created during a PRA-guided workshop (February 2013)

GROUP TWO (2)

What do parents and children of this community typically eat every day?

Breakfast

Parents	Learners
→20% of parents eat soft porridge and cereal.	→5% of learners eat cereal.
→80% of parents eat tea and bread.	→10% soft porridge (home & school).
	→5% of learners drink tea with stiff pap.
	→20% of learners eat fat cakes, buns and cakes.
	60% - tea and bread.

Lunch

→Both parents and learners eat bunny chew (Sphatlo).
→Spykos (baked beans, tin fish and atchaar.
→20% of community members do not eat lunch. radishy
→Other members eat pap and any available kediush
→Learners eat at school
→Other members eat from dumping site.

Dinner

→5% of the community eat nothing.
→20% - eat bread & tea
→70% - eat pap and seshebo (eggs; vegetables; meat chicken feet, jam; atchaar; morogo; mopani worms; milk and salt.
→5% - eat pap with salted or sugary water.

Photograph 3.19: Example of a poster compiled by teachers that I relied on during the development of the Win-LIFE intervention

For this study, the purpose of photographs was twofold. Firstly, I used photographs to assist me in the recalling of research activities and other details related to the study that might not have been captured in my field notes (Patton, 2002). Secondly, photographs enriched my descriptions of the research setting and specific events that took place (Clark & Zimmer, 2001; Patton, 2002).

In order to protect the anonymity of the participants in this thesis, I include only photographs for which written permission was provided by the participants (Clark & Zimmer, 2001). However, as a PRA-researcher I did not merely assume that participants would want to remain anonymous, and therefore involved them in decisions about the use of photographs when reporting on my study (Ebersöhn & Ferreira, 2012). Participants as a result had the option to have their faces and names published (or not), and written consent was obtained when they preferred the first option.

Despite the value of using visual data, I also remained cautious of the possible challenge of photographs being difficult to analyse due to the rich information they may contain (McMillan & Schumacher, 2014). As a researcher, I furthermore faced the challenge of being biased or influencing the results by selecting certain

photographs only, thereby imposing my personal understanding of the phenomenon rather than reflecting the participants' views (McMillan & Schumacher, 2014). In an attempt to avoid and address these potential challenges, I allowed myself enough time for data analysis and revisited the raw data several times. I included member checking, and regularly reflected my ideas with my supervisor who also took photographs during the sessions, and was able to guide me in the process.

Finally, I remained cautious of the possibility of participants acting in ways that they perceived to be socially desirable rather than providing authentic information (Kelly, Kelly, Offner, & Vorland, 2002; McMillan & Schumacher, 2014). To this end, I had to make sure that the photographs I took were non-invasive and did not restrain the research process or participants (McMillan & Schumacher, 2014). In this study I perceived the participants as being fully engaged when pictures were taken, not being distracted by the use of this technique.

3.4.7 Observation-as-context-of-interaction

McMillan and Schumacher (2014) describe observation in research as a continued and prolonged process of generating data through one's senses while simultaneously developing a deep understanding of the context and participants' lived experiences. Observation formed an essential part of the research I conducted, as I relied on what I learnt from the participants yet also on my perception of the research context and process in being informed to develop the Win-LIFE intervention, and later exploring the implementation thereof. Observation is generally associated with interpretivist research, as it can allow researchers to understand a phenomenon as it occurs naturally (Terre Blanche & Kelly, 2000).

Observation allowed me to obtain insight into the manner in which the participants approached and experienced the questions they were asked. More specifically, I relied on observation-as-context-of-interaction as this form of observation allowed me to be part of the "act of noting a phenomenon, often with instruments, and recording it for scientific purposes" (Angrosino, 2007, p.53). In my study, I employed observation-as-context-of-interaction by fulfilling a membership role during PRA-guided workshops and focus groups, and observing and documenting the interaction and collaboration that occurred between the participants by means of field notes and photographs (Angrosino & Mays de Pérez, 2000).

Throughout the current study I attempted to document perceptions and experiences as seen through the eyes of the participants (Angrosino, 2007) thereby fulfilling the role of participant observer (Creswell, 2012; Nieuwenhuis, 2007). Angrosino and Pérez (2000, p.693) state that participant observation is "essentially a matter of interpersonal interaction and not a matter of objective hypothesis testing". In addition Angrosino (2007, p.165) adds that participant observation is "grounded in the establishment of considerable rapport between the researcher and the host community", together with prolonged engagement in the everyday life of the participants.

Against this background, I identified myself as a PRA researcher, from the onset of my study. I interacted with the participants and was thus actively involved in the data generation process (Rubin & Babbie, 2017). Participant observation furthermore required of me to engage in a variety of activities that included interaction with the participants, documentation, informal interviewing, ad hoc conversations, PRA-guided workshops and continuous reflection (Willig, 2013; Creswell, 2012). While actively participating in the different activities, participant observation allowed me to experience the data generation process first-hand and record my observations in the form of detailed notes. I was also able to capture detailed descriptions of what the participants said, how they non-verbally responded, of the physical settings where the research took place, and of the various activities involved (Willig, 2013).

In addition to their field notes, I included another set of observational notes (recorded in my reflective journal) which summarised my reflections on my role as researcher, my relationships with the different groups of participants and the challenges I encountered during the research process. I furthermore reflected on the preliminary insight I obtained as the study progressed. To this end, I used analytical notes to reflect on possible emerging themes, patterns, similarities and differences following my data analysis and interpretation (Willig, 2013).

3.4.8 Field notes and reflective journal

As indicated, I used a reflective journal to document my experiences and thoughts, identify possible assumptions, make sense of the generated data and record any aspect that could affect the data or my interpretations. Reflective journals are regarded as valuable heuristic tools that can be used to enhance interpersonal

reflexivity (McMillan & Schumacher, 2014). In this regard, Lofland (1971, p.234) many years ago already stated that a reflective journal is not only used for reflective writing about a research setting but also to "record the observer". In other words, I relied on rigorous self-scrutiny through continuous reflexivity in an attempt to minimise possible predispositions and to get to know myself as a PRA researcher that aimed to ensure a credible study (McMillan & Schumacher, 2014).

Capturing systematic notes in my reflective journal supported me as qualitative researcher to gain knowledge through experience (Zuber-Skerritt & Fletcher, 2007), shaped me to becoming a more reflective researcher, and supported me to implement appropriate action (McNiff & Whitehead, 2006). My decision to employ reflexivity furthermore assisted me to capture the essence of the generated data, thereby transcending my own subjectivity and cultural background throughout the PRA research process. In this manner, a reflective journal enabled me to establish context and make meaning by observing human interaction together with the physical context in which activities occurred, as well as to reflect on ethical considerations while undertaking the study (Bogdan & Biklen, 2007).

I specifically made use of reflection in action (Schön, 1987) by thinking through and planning how I was going to manage myself as a credible PRA researcher to remain thoughtful and self-aware. Furthermore, I incorporated reflection on action (Schön, 1987) by reflecting on what had been done in my reflective journal after each data generation session. I divided my reflective journal into two categories, namely descriptive and reflective notes (Bogdan & Biklen, 2007). These two categories supported my thinking in terms of the various aspects of my role as researcher and the entire research process.

I made use of systematic reflective notes to capture the essence of the reflection process in written form. This allowed me to re-visit the process when needed. I specifically used Gibbs's (1988) reflective cycle (Figure 3.1) and followed the clearly defined stages of reflection to structure my thoughts and feelings. This model of reflection (Gibbs, 1988) supported me in thinking about my research experiences and furthermore assisted me to identify possible strengths and weaknesses in my research practices (Cottrell, 2011).
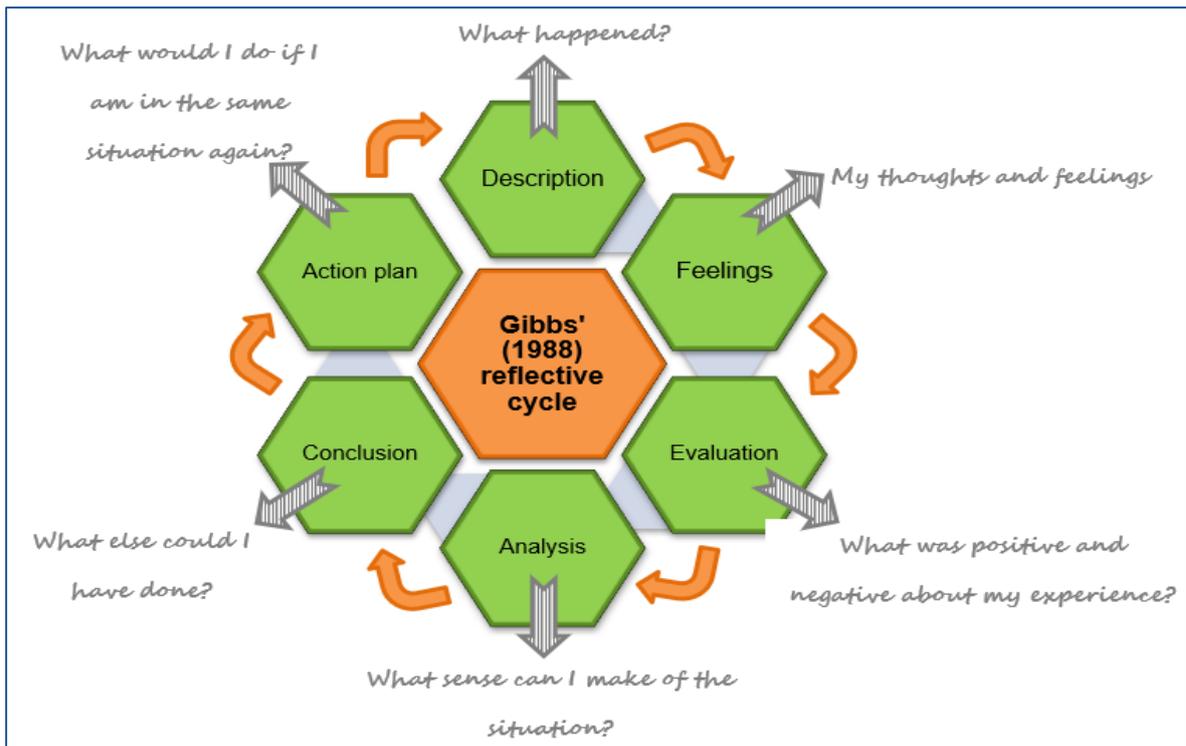
Figure 3.1: Gibbs's (1988) reflective cycle

An advantage of using a reflective journal and field notes when conducting research relates to these strategies enabling the researcher to order thoughts and gain a deep understanding of the observations made during the research process (McMillan & Schumacher, 2014). Closely related, however, a potential challenge when using field notes and a reflective journal concerns the possibility of capturing subjective views of the research process (Punch, 2009). In this regard, it is important to note that subjectivity in qualitative research is possible. This required of me to remain conscious of my subjective thoughts throughout the study (Cohen et al., 2007). In doing this, I aimed to document my thoughts and ideas thoroughly during the research process and continually reflect on what could have influenced my thinking – both in my reflective journal and during reflective sessions with my supervisor.

3.5   DATA ANALYSIS AND INTERPRETATION

According to Bogdan and Biklen (2003) inductive thematic analysis entails a dynamic process and systematic search for meaning. For the current study, my purpose was to provide an accurate description and interpretation of a naturally occurring phenomenon, namely the development and implementation of a school-based health promotion intervention in a resource-constrained community (Babbie & Mouton,

2001; Patton, 2002). For data analysis, I thus aimed to make sense of the generated data, through a systematic analysis of large volumes of qualitative information to identify meaning in terms of patterns, categories, themes and interrelationships in an inductive manner (Patton, 2002; McMillan & Schumacher, 2014).

I fulfilled the roles of data generator, analyst and interpreter throughout the research process; by being involved the various phases of the broader project, I was able to gain insight into the context and interactions that took place and could therefore start with data analysis whilst data generation was occurring. According to Chambers (2012), the application of PRA-guided principles require an integrated approach to data generation and analysis, as the researcher is guided by the participants.

To this end, I continuously engaged in data analysis. I namely analysed and interpreted the data obtained from existing documents on national and international policies and initiatives, PRA-guided workshops and activities with the participating teachers, focus groups, semi-structured interviews, visual techniques, observation-as-context-of-interaction, field notes and a reflective journal. In conducting data analysis, I relied on Braun and Clarke's (2021) guidelines for inductive thematic analysis. These guidelines entail the steps of familiarising oneself with the data, formulating initial codes, identifying themes or patterns, reviewing identified themes, defining and naming themes, and writing up a research report. As a result, inductive thematic analysis enabled me to obtain an in-depth understanding of the development and implementation of the Win-LIFE school-based intervention in a resource-constrained community.

Throughout the data analysis and interpretation process I aimed to make sense of the data in terms of the participants' experiences and perceptions (Cohen et al., 2007). In following Braun and Clarke's (2021) guidelines, I firstly perused all the data to become familiar with it. During my initial readings I made notes in the margins, which served as a sorting process. Hereafter, I organised the data into possible topics, and indicated possible similarities and differences. I then reviewed the data for a second time to start systematically with a formal coding process by looking for specific words and potential categories that could be identified (Creswell, 2012; Terre Blanche & Durrheim, 2002).

Next, I identified preliminary themes and sub-themes by grouping the identified codes together, based on shared underlying meanings (Braun & Clarke, 2021). I then reviewed the themes by checking whether or not any themes could be linked to one another, could be subdivided, or had been mistakenly identified. I named and defined the identified themes, and then captured the information in writing (Braun & Clarke, 2013). Throughout this process, I discussed the identified themes and related sub-themes with my supervisor and kept a reflective journal to document my thoughts and reflections as I analysed the data. As in the case of all written data, I followed an inductive process of data analysis and interpretation with the visual data (photographs and posters) of the current study. To this end, I attempted to "align emerged visual categories with the textual descriptions" (Ebersöhn & Eloff, 2007, p.212).

After completing the initial data analysis process, I used member checking (Smit & Fritz, 2008; McMillan & Schumacher, 2014) to validate the accuracy of my understanding and representation of the participants' views. During this phase of the study, I verified the identified themes and sub-themes with the participants to ensure that my interpretations were a true reflection of their views. This step was an important ethical commitment for me, aiming to ensure that the participants' perceptions and voices were represented as truthfully as possible (McMillan & Schumacher, 2014).

Although thematic analysis and interpretation may be time-consuming, this strategy enabled me to obtain a clear view of the perceptions of the participants, captured in a detailed audit trail. Another potential limitation often associated with thematic analysis and interpretation is that the coding and meaning attributed to the generated data may differ from that done by another researcher that analyses the same data set. I do, however, believe that the concreteness of the data I analysed as well as continued reflections and detailed discussions included in this thesis strengthened the transparency of my interpretations and subsequent findings of the study (Babbie & Mouton, 2001; Patton, 2002).

3.6 QUALITY CRITERIA

According to Babbie and Mouton (2001) the aim of producing a rigorous study lies in the value of trustworthiness − in other words whether or not the research audience will be convinced that a study is worth taking note of and that the findings represent reality. Trustworthiness can thus be regarded as a qualitative researcher's attempt to

ensure that the findings of a study are relevant and based on the researcher's ability to be open to information and listen without taking on an expert role (Cohen et al., 2007). As such, trustworthiness implies research that has been completed in a thorough and accurate manner (Thomas & Magilvy, 2011).

In an attempt to enhance the trustworthiness of the current study I remained aware of my interaction with the participants, facilitated and dealt with any possible biases, and applied PRA-guided principles as an outsider-researcher through continuous observation as well as reflexivity about myself as researcher, the participants and the findings of the study (Patton, 2002). I also paid careful attention to Lincoln and Guba's (1985) criteria for evaluating the trustworthiness and methodological soundness (Goldblatt, Karnieli-Miller & Neumann, 2011) of PRA-guided research, being credibility, transferability, dependability, confirmability and authenticity.

3.6.1 Credibility

I agree with Petty, Thomson and Stew (2012, p.382) who view credibility as the "degree to which the findings can be trusted or believed by the participants of the study". As such, credibility describes the extent to which findings are truthful − in other words whether or not the trail of evidence is persuasive. Credibility emphasises professional integrity, intellectual rigour and methodological capability (Patton, 2002; Seale, 1999; Creswell, 2014). In Table 3.4, I summarise the strategies I employed in support of credibility.

Table 3.4: Overview of the strategies employed to enhance the credibility of the study

STRATEGIES	ACTUALISATION OF THE STRATEGIES IN THE CURRENT STUDY
Continued engagement and observation in the research setting	I undertook 42 field visits between February 2013 and October 2016, thereby building and maintaining trusting relationships with the different groups of participants and supporting the process of data generation, analysis and interpretation. I invested a sufficient period of time in the research process to ensure that my understanding of the phenomenon under study is accurate. I made use of continued engagement and observation because "… prolonged engagement provides scope and persistent observation provides depth" (Onwuegbuzie & Leech, 2006, p.239).
Crystallisation	I made use of a variety of data sources and relied on numerous methods (methodological crystallisation), a conceptual framework consisting of different theories (theoretical crystallisation) and multiple researchers (investigator crystallisation).
Member checking	Throughout my study I verified the analysed data, my interpretations and emerging themes through the use of member checking, as this is regarded as "… the most critical technique for establishing credibility" (Lincoln &

STRATEGIES	ACTUALISATION OF THE STRATEGIES IN THE CURRENT STUDY
	Guba, 1985, p.314). Member checking thus provided the different groups of participants with the opportunity to eliminate the risk of being misunderstood by the researcher and eventually the broader research audience.
Peer debriefing	I continuously engaged in a process of in-depth, analytic and reflexive discussions with my supervisor and other members of the research team. As professional researchers they served as reviewers and critical readers, allowing me to debrief and reflect when needed.
Keeping a reflective journal and field notes (low-inference descriptors)	Before my study commenced, during the data generation, analysis and interpretation phases as well as throughout the development and implementation of the health promotion intervention, I used my reflective journal to document my thinking, opinions and potential biases. During the data generation process I also recorded precise, sometimes almost literal descriptions of the different groups of participants and the research setting.
Including thick descriptions and rich rigour	I aimed to provide rich, thick descriptions and a detailed depiction of the different groups of participants, research setting and process in this thesis.
Providing an audit trail	Throughout the study I maintained a systematic record of all the procedures, generated data, observations, ideas, opinions, analysis and interpretations, including these in the thesis as a trail of evidence.
Attending to sincerity, clarification of researcher bias and progressive subjectivity	Sincerity as a research goal can be achieved through reflexivity, honesty, transparency and an audit trail. Sincerity implies honesty and transparency about the biases of a researcher and the research process. I agree with Seale (1999, p.468) who indicates that researchers need to provide "a methodologically self-critical account of how the research was done". Throughout the research process I aimed to be a sincere, empathetic, kind and self-reflexive researcher that considered the needs of the participants, my co-researchers and potential readers of the study.
Maintaining a commendable focus	The specific research focus, being the development and implementation of a school-based health promotion intervention in support of a South African resource-constrained community is context-relevant, judicious and important (Tracy, 2010). Guba and Lincoln (2005) recommend topics with educational value, which may lead to raised awareness, as topics with a commendable focus, such as the topic of my study.
Making a significant contribution	I aimed to generate "a sense of insight and deepened understanding" (Tracy, 2010:209) and kept the following questions in mind while progressing through the research process (Tracy, 2010, p.845): "Does the study generate ongoing research? Can the study improve practice? Does the study build capacity or empower participants?" Furthermore, I aimed to contribute towards practically significant research (Tracy, 2010), where the generated knowledge is regarded as useful.
Ensuring meaningful coherence	Throughout my study I aimed to achieve meaningful coherence by focusing on the purpose of the study and incorporating research methodology that links well with the selected theories and paradigms. I also focused on connecting existing literature with the research focus, the methods I employed and the findings obtained.
Resonating with readers	I attempted to ensure that the generated and documented data as well as the findings are presented in such a way that it will stimulate resonance in the reader.

By spending an extended period of time with the participants in the field (prolonged engagement), I was able to verify the participants' perspectives over time (2013-2016) in conversation with them and through continuous observation (Lincoln & Guba, 1985). This extended period of time benefited the rapport established with the participants, resulting in their sharing more information and insight as the study

progressed. Prolonged engagement specifically assisted me in identifying themes that kept on recurring as well as topics on which the participants disagreed.

In terms of crystellisation Janesick (2000, p. 873) indicates that this strategy offers a "lens through which to view qualitative research designs and their components". Richardson (2000) adds that crystallisation can enable a qualitative researcher to recognise various sides from which to approach the world or view a phenomenon, thereby rejecting the idea that there is one single truth. Whilst triangulation aims to obtain a view of the truth from various perspectives, crystallisation thus aims to view one phenomenon from various perspectives to obtain layered, multiple descriptions (Richardson, 2000). Richardson (2000, p.934) furthermore emphasises that crystallisation "provides us with a deepened, complex, thoroughly partial, understanding of the topic".

In order to enhance the credibility of the current study, I employed member checking, not only to avoid possible misunderstanding of the participants' perceptions and opinions, but also to engage the participants as active partners throughout the study. Morse, Barrett, Mayan, Olson and Spiers (2002) recommend certain processes involved in member checking, to which I adhered. I accordingly utilised a systemic and organised data analysis method (inductive thematic analysis), and involved additional reviewers (my supervisor and other research team members) to identify any possible misunderstanding or personal biases on my side. I furthermore include extensive information about the research context in this thesis as well as verbatim quotations from the different groups of participants where I discuss the results in Chapter 4. Throughout, I attempted to highlight the similarities and differences between the different cases. Through thick descriptions of the participants, school and community context, as well as the availability of an audit trail in the attached appendices, I attempted to provide the reader with sufficient detail to gain a deeper understanding of the research process I followed (Tracy, 2010).

With regard to the possible influence of researcher bias and preconceived assumptions, I relied on reflexivity (Lincoln & Guba, 1985; Nastasi & Schensul, 2005). More specifically, I regularly reflected on my own thoughts, ideas, feelings, assumptions, perceptions and experiences generated through interaction with the participants. In addition, a reflective journal contains notes on the challenges,

frustration and questions I identified concerning the research process (Lincoln & Guba, 1985; Nastasi & Schensul, 2005).

Finally, I relied on debriefing sessions with my supervisor and co-researchers in an attempt to add to the credibility of the study. These sessions allowed me to unpack my research experiences, and identify any possible subjectivity, preconceived assumptions and researcher bias. I furthermore relied on reflective discussions with the research team to discuss the preliminary results and finalise my interpretation of the data (Durrheim & Wassenaar, 2002).

3.6.2 Transferability

In qualitative research, transferability can be related to external validity used in quantitative research (Seale, 1999). Transferability implies that research findings can be transferred to other specific contexts or participants similar to these of the study in question. This is made possible through the inclusion of in-depth, rich descriptions of the contexts and participants when writing up a research report (Huberman & Miles, 2002; Lincoln & Guba, 1985). Transferability is not the same as generalisability and does not imply that results apply to the broader population but to a specific population that may be similar to other research populations (Durrheim & Wassenaar, 2002). Transferability aligns with an underlying principle of PRA, indicating that different communities possess unique characteristics, resources and challenges, and that the findings of a study cannot merely be generalised to other communities without considering the unique identifying factors (Ferreira, 2006).

As I focused on a particular phenomenon (the development and implementation of a school-based health promotion intervention), the findings can be applied to other similar contexts where research is conducted on the development of related interventions in similar school community contexts (Denzin & Lincoln, 2000). Throughout, I aimed to achieve transferability by providing thick descriptions of the resource-constrained community (unique setting), participants and research context where the current study was undertaken (Seale, 1999; Richter & Jooste, 2013). I made use of multiple data generation and documentation strategies to introduce the context and participants to the reader who can then decide to what extent the research findings of the current study may be transferred to a similar context (Bless et al., 2013).

3.6.3 Dependability

Dependability confirms that the findings of a study would be the same if the study was to be repeated with the same participants or in a similar context (McMillian & Schumacher, 2014). Dependability thus implies a certain degree of consistency with regard to the measuring instrument, which is usually the researcher when conducting a qualitative study. In this regard, Merriam (1998, p. 206) indicates that dependability can be regarded as the extent to which "results are consistent with the data collected".

Consistency in qualitative research is, however, challenging due to human behaviour not being static, but continually changing as people adapt to new circumstances. In interpretive research the researcher accordingly expects that people will react and behave differently in changing contexts. In addition, the goal for interpretive research is not to replicate findings but rather to explore specific phenomena in depth in order to gain a deep understanding (Denzin & Lincoln, 2000).

According to Merriam (2002), it is important to ask whether the results of a study are consistent with the data or not. In this manner, dependability implies the ability to track and audit changes that may occur in a research process (Seale, 1999). Dependability thus accentuates the need for researchers to account for changing contexts within which research occurs. Against this background it is the responsibility of the qualitative researcher to describe any changes that occur in a research setting and how these affect the way in which the researcher approaches the study (Patton, 1990).

By including an audit trail, I attempted to capture all the events, changes that occurred and experiences shared in the field (Seale, 1999). As such, my audit trail, included as appendices, consists of the documented data as well as my notes on research methods and the decisions made during the research process. I namely kept the following documents for easy access: my research journal with reflections from 2013-2016, dated field notes, PRA-posters, photographs, verbatim transcriptions and dated descriptions of activities. This auditing process supported me to compile this research report (thesis) on the research process that was followed (Seale, 1999; Silverman, 2013).

3.6.4 Confirmability

Ladkin (2005, p. 110) questions whether it is "possible that subjectivity can lead to knowledge which might be valid outside of one's unique subjective experience". According to Reason and Bradbury (2001), the concern for objectivity *versus* subjectivity is a realistic concern in qualitative studies, with confirmability addressing this concern. Confirmability occurs once dependability and transferability have been achieved and can be compared to objectivity in quantitative research (Thomas & Magilvy, 2011). As such, confirmability implies findings that minimise researcher bias, despite the fact that qualitative research can never be regarded as fully objective (Morrow, 2005). It follows that confirmable findings imply data and interpretations that can be related to the relevant sources, instead of these being the fabrications of the researcher (Patton, 2002). As a qualitative researcher following an interpretivist approach, I initially found it challenging to exclude my subjective experiences completely when reporting on the study; however, through regular debriefing and reflections, I acquired the skill to limit this to the minimum.

I furthermore relied on crystallisation to reduce the potential effect of bias and enhance confirmability. Miles and Huberman (1994) consider a key criterion for confirmability the extent to which the researcher admits his or her predispositions. To this end, I acknowledge the possibility of my own bias, as my values might have had an effect on the way in which I interpreted the data; yet I tried to limit this as far as possible. I namely relied on an audit trail (McMillan & Schumacher, 2014) and different types of data records (Lincoln & Guba, 1985). I thus included various records as appendices in this thesis for other researchers or external auditors clearly to follow my decision trail. More specifically, I include raw data records (field notes, visual data and audio-recordings); data reduction and analysis records (condensed notes and summaries); data reconstruction and synthesis records (themes and interpretations); process records (design strategies and trustworthiness notes) and records related to intensions and dispositions (reflective journal) as part of this thesis.

In addition, I employed reflexivity and include methodological and self-critical accounts of how the research had been completed (Seale, 1999). As mentioned previously, I utilised multiple methods of data generation and analysed the participants' verbatim responses whilst guarding against the potential influence of my own feelings and views. Throughout, my supervisor acted as peer reviewer, assisting

me to confirm the results and formulate findings that are in line with the data I obtained (Seale, 1999; Creswell, 2014). Member checking further confirmed the themes I identified, reflecting the perceptions and voices of the participants (Richter & Jooste, 2013; Thomas & Magilvy, 2011; Denzin & Lincoln, 2005).

3.6.5 Authenticity

According to Seale (1999), authenticity refers to the representation of different realities, in other words fairness, openness and negotiated meaning (Govaerts & Van der Vleuten, 2013). Authenticity within qualitative research indicates whether or not the descriptions and explanations of people, events and places correlate with one another (Seale, 1999; McMillan & Schumacher, 2014). Apart from fairness, authenticity can manifest in different forms, namely tactical, educative and ontological authenticity (Onwuegbuzie, Johnson, & Collins, 2010).

The goal of the current study was to develop and implement a school-based health promotion intervention in such a way that my description correlates with and is a representation of the participants' views. In order to enhance the ontological authenticity of the study, I thus asked the participants to verify the identified themes and confirm that their perceptions were understood correctly and reproduced accurately (Babbie & Mouton, 2001; Patton, 2002; Silverman, 2013). For tactical authenticity, I plan to publish and share the findings with the participants. In terms of educative authenticity, the development and implementation of the Win-LIFE intervention aided knowledge generation regarding health promotion. Furthermore, the involvement of multiple participants from various backgrounds helped to direct this research and to focus the key themes the research aimed to address (Pandya-Wood, 2014).

3.7 ETHICAL CONSIDERATIONS

According to Boden, Epstein and Latimer (2009), the single most important criterion for developing ethical guidelines entails the prevention of exploitation and humiliation of research participants. During the current study I was guided by ethical awareness, the protection of human rights and social justice as underlying ethical guidelines (Shaw, 2008; Orb, Eisenhauer & Wynaden, 2001). I agree with Clegg and Slife (2009) that all research activities should be based on ethical principles and as a result

regarded myself as a visitor in the participants' worlds. Accordingly, I implemented the principles of ethically responsible qualitative research (Bless et al., 2013; Willig, 2013; Berg & Lune, 2012; Creswell, 2014), as stipulated by the Ethics Committee of the Faculty of Education of the University of Pretoria (Faculty of Education, 2015).

Prior to entering the resource-constrained school contexts, I obtained the necessary permission as part of the broader Win-LIFE Project to conduct research from both the Gauteng Department of Basic Education (region Gauteng North) and the three principals of the participating primary schools. Throughout the current study, I adhered to the principle of fidelity, which implies the keeping of agreements, specifically between researchers and participants (Bless et al., 2013).

As part of my adherence to ethical guidelines, I acknowledged my relative privileges as a researcher (with permanent employment and access to health care) when compared to the difficulties some of the participants may have faced due to the socio-economic challenges they experienced, such as poverty, hunger, HIV and AIDS and unemployment (Bless et al., 2013). Following this important starting point of recognising positional discrepancies between the various parties involved (Haverkamp, 2005), I strived to maintain a researcher-participant balance by engaging participants during all the phases of the study, thereby expressing my respect (as researcher) for them as active partners (Goldblatt, Karnieli-Miller & Neumann, 2011). I regarded the participants as co-researchers as well as experts of their communities and their own lives, as I believe that the creation of new knowledge is based on the coexistence of different perspectives (Larkin, de Caterlé & Schotsmans, 2008).

Throughout my study I used a reflective journal to document my personal opinions, ideas and feelings, in support of conducting ethical research. Tracy (2010) confirms this notion by arguing for researchers repeatedly reflecting on, commenting on and questioning their own ethical decisions. Other strategies I utilised to address possible positional discrepancies include regular engagement with the participants and research team, ethical reasoning and reflective conversations with my supervisor (Ferreira, 2006), and subjecting my research to a rigorous ethical review process (Bless et al., 2013).

The safety and well-being of participants are regarded as fundamental elements of ethical research practice. I respected the principle of non-maleficence as core basic principle of ethical research and a researcher's obligation (Grinnell & Unrau, 2008) to protect participants against any form of harm, distress or discomfort within reasonable limits (Bless et al., 2013; Creswell, 2014). In addition, I attended to the principle of beneficence that requires research that can contribute to participants' well-being, with an emphasis on maximising potential benefits and minimising possible risks to both the research participants themselves and the broader community or society. Examples of possible risks include any form of physical and psychological (emotional) harm, as well as practical challenges, such as costs involved in terms of money, time and inconvenience (Bless et al., 2013; Willig, 2013). In the current study, I aimed to limit any potential risks and enhance the possibility of benefits, which occurred in the form of the intervention that could benefit teachers, learners and the broader community. I also avoided harm in the form of financial expenses by arranging transport for the participants to the University of Pretoria for the PRA-guided workshop that was conducted.

Next, the principles of informed consent and autonomy that focus on participants' right to voluntary participation (Bless et al., 2013; Creswell, 2014) are ethical requirements for any qualitative study (Bless et al., 2013). For informed consent, I informed the participants about the nature and potential impact of the research project, together with the benefits, risks and expected outcomes, before requesting their commitment to participate. Participants were informed that they had the right to decline the invitation to participate or to discontinue their participation at any time during the development and implementation of the Win-LIFE intervention project. I thus obtained written informed consent from the participants prior to their participation after providing them with the necessary information to decide whether or not they wanted to participate. As part of this process, I obtained permission to audio-recorded conversations and take photographs of all data generation sessions.

I also emphasised that confidentiality was of paramount importance and that sensitive and personal information provided by the participants would be protected and not made available to anyone other than the researcher (Bless et al., 2013). To this end, I requested the participants not to share what had been discussed with others outside the data generation sessions. During the current study no sensitive or personal

information was revealed by any of the participants. Although the confidentiality and anonymity of participants in qualitative studies are generally expected to be protected, the participants in the Win-LIFE intervention project indicated a preference to be known in terms of their own identities when representing photographs (Cohen et al., 2007; Seale, 1999; Terre Blanche & Durrheim, 2002). Therefore, despite the fact that I refrain from disclosing the participants' identities in the written part of Chapter 4 when I report on the results of the study, I disclose the participants' faces in the visual data I include in this thesis. All the data, including audio-visual material, field notes and my reflective journal as well as the transcripts is being kept in a safe environment at the University of Pretoria (Durrheim & Wassenaar, 2002) as part of my undertaking to adhere to ethical guidelines when conducting research with human beings.

Integrated with and embedded in all the indicated ethical principles and practices is the notion of ethical self-consciousness, better known as relational ethics. According to Ellis (2007:p.4), "relational ethics are related to an ethic of care that recognizes and values mutual respect, dignity and connectedness between researcher and being researched, as well as between researchers and the communities in which they live and work". I remained mindful of my own behaviour through continuous evaluation and construction, being true to my professional character, taking responsibility for my actions and any consequences for the participants, and remaining morally committed to the study in an authentic, mutual respectful and ethical diligent manner (Marshall & Rossman, 2011; Larkin, de Caterlé & Schotsmans, 2008). As an engaged researcher, I consciously reviewed and reconstructed my behaviour where necessary (Marshall & Rossman, 2011).

Next, the ethical principle of justice incorporates the belief that all participants need to be treated equally without being discriminated against on the basis of gender, race, disability or any other characteristic (Bless et al., 2013). An important aspect of protecting participants' rights and dignity involves respect and an understanding of participants' cultures (Bless et al., 2013). Closely related, to adhere to the principle of trust, I ensured that the participants were aware of the purpose of the current study, as well as the research process, prior to commencing with data generation. I aimed to present a true account of the information the participants provided in a manner not causing any distress or anxiety (Cohen et al., 2007; De Vos et al., 2005; Terre

Blanche & Durrheim, 2002). I did not deceive the participants in any way before, during or after the study.

Finally, I did not discriminate against any participants in any manner (Creswell, 2014; Hammersley & Traianou, 2012). As this study involved PRA-guided workshops, I was informed by values of democracy, co-ownership and the co-construction of knowledge among participants, thereby practising equality (Chambers, 2012). As a researcher, I constantly reflected on the methods used during the research process to accommodate the specific characteristics of this research setting and situation (Tracy, 2010). The nature of PRA-guided workshops allowed for some flexibility, for example adjusting some questions and examples to match the language level and level of understanding by the participants.

3.8 MY ROLE AS QUALITATIVE PARTICIPATORY RESEARCHER

My role as researcher can be described in terms of the specific functions I fulfilled during the current study. After exploring possible research sites during a meeting with my co-researchers in 2012, I obtained the necessary permission from the three school principals and the Gauteng Department of Basic Education before entering the resource-constrained school context. Throughout the study, I networked with the three school principals and two deputy principals to keep them informed of all visits that were confirmed in writing with the principals prior to each visit. I aimed to engage in the research activities in the least disruptive manner possible, conducting meetings after school hours, when most of the learners and other teachers had left. During the first meeting with the participants I focused on establishing rapport to gain their trust and enthusiasm to participate. Furthermore, I fulfilled the role of primary research instrument for data generation, analysis and interpretation (Marshall & Rossman, 2011; Chambers, 2012).

Kvale (1996, p. 117) emphasises the role of the researcher and indicates that "the researcher is critical for the quality of the scientific knowledge and for the soundness of ethical decisions in any research project". For the broader project,which includes my study, I adopted different roles, namely that of researcher in my own study, co-researcher for related studies in the broader project, facilitator during the implementation of the Win-LIFE intervention, as well as collaborator in PRA-guided sessions and research. Throughout, I fulfilled the role of observer, interviewer, analyst

and interpreter (Babbie & Mouton, 2001; Janesick, 2000). Throughout, I was guided by my responsibility to remain unbiased when describing and interpreting the research findings.

According to Nieuwenhuis (2007), qualitative researchers form part of the social world they study and cannot be separated from it, due to the close interaction with the participants. Researchers are thus expected to take a neutral stance during data generation and analysis (Neuman, 2000). Any value commitments by researchers as a result need to be transparent and require of researchers to be sensitive to the social relationships formed and the personal feelings that develop during the course of fieldwork (Denzin & Lincoln, 2000). As researchers may have an effect on participants, they need to understand and minimise any form of reactivity, or consciously monitor this (Hammersley & Atkinson, 1995).

Even though it is not possible to conduct a value-free inquiry, I relied on my existing knowledge and skills in undertaking this study (Denzin & Lincoln, 2000) and entered the resource-constrained school context with a realisation that I am a white literate female, with a different background and culture than that of the participants. This implied that my background as researcher, which includes aspects such as my training, experience, values, beliefs and interests, may have affected my perspective as research instrument. I constantly reflected on the potential influence of my status on the knowledge development that evolved and paid attention to all interactions with the participants to gain insight into their views rather than being driven by my own background. I also had to maintain a balance between becoming too involved on the one hand and being too distant on the other hand, thereby utilising empathetic neutrality (Marshall & Rossman, 2011; Patton, 2002). In this regard, Janesick (2000) posits that researchers should accept that qualitative studies are ideologically driven and that one cannot pretend that such research is value-free. As such, qualitative researchers are encouraged not only to identify and articulate their own beliefs and ideologies, but also their social, philosophical and physical location, including their role in this (Janesick, 2000).

In this regard, I remained conscious and aware of my own background and beliefs. I was aware that my perceptions and personal beliefs could influence my interpretation and understanding of the data, and therefore relied on a reflective journal to reflect

on my thoughts and potential subjectivity. In addition, in compiling this research report I made use of reflective language to indicate that the findings are based on both the research evidence and my own process of meaning making (Eagle, Hayes & Sibanda, 2002), despite my attempt to limit the influence of my own preconceived ideas and bias.

In terms of my role as facilitator of and interviewer during data generation sessions, my background and profession was beneficial. More specifically, I acquired certain competencies as an educational psychologist during my training and in my career where I have been involved in parental, learning and emotional support, guidance and counselling. I have thus acquired the skill to probe for information yet remain focused on meaningful contributions. Before engaging with the participants I obtained background information on their context, and conducted a thorough literature review and document analysis focusing on the topic I set out to explore. I also obtained knowledge about the ethnic and cultural groups represented by the participants, and enquired about their background and related customs as part of my study. This background information assisted me in facilitating meaningful discussions, making valuable observations and maintaining sound relationships of trust with the participants.

During the course of my study, the contact and frequent discussions with my supervisor and other members of the research team were important sources of information and verification, due to the participating resource-constrained community being ethnically and culturally akin. Moreover, in working in a comparable situation, I became conscious of the way of life of the resource-constrained community and school context, and the needs and difficulties experienced by the participants' from their perspectives. Throughout, I attempted to be sensitive of cultural differences without discriminating against others, as well as to respect the unique needs and values of all individuals.

In conclusion, I continually had to reflect on who I am, as well as on my assumptions, values and biases with which I entered the research field and undertook my study. As already indicated, I relied on a reflective journal and regular reflection sessions with my supervisor and co-researchers to identify potential challenges and any changes that needed to be made. Throughout, I encouraged the participants to share

and discuss their unique realities not only with the research team, but also with their fellow participants (Ruben & Babbie, 2014).

3.9 CONCLUSION

In this chapter, I explained the paradigmatic choices that guided the current study. I discussed the research design, selection procedures and methodological process of the study in detail. I explained the data generation and documentation techniques and the methods I employed for analysing and interpreting the data. I also outlined the quality criteria and ethical considerations I adhered to.

In the next chapter, I present the results of the study. More specifically, I foreground the themes identified as a result of thematic analysis in terms of the planning, development and implementation of the Win-LIFE intervention. Throughout, I provide examples of the data in discussing the themes and related sub-themes in support of my presentation of the results.

CHAPTER 4

RESULTS OF THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE WIN-LIFE INTERVENTION

4.1 INTRODUCTION

In Chapter 3, I discussed the methodological decisions I made. I reported on my choices of meta-theoretical and methodological paradigms, and then described the multiple case study design I employed, the data generation and documentation strategies I used, as well as the process of inductive thematic analysis and interpretation I completed. Finally, I focused on the quality criteria of the study, the ethical considerations I followed and my role as researcher.

In Chapter 4, I report on the results of the current study. I present the three central themes that I identified during thematic analysis. These relate to aspects that had to be considered when planning the Win-LIFE intervention, the collaborative development of the intervention, and its implementation.

For each of the themes I stipulate the inclusion and exclusion criteria that apply to the sub-themes and related categories. I supplement my discussion of the results with verbatim excerpts from the transcribed focus groups, PRA-guided workshops, semi-structured interviews, field notes, my reflective journal and visual data. As an introduction to my discussion of the results of the study, Table 4.1 provides an overview of the identified themes, sub-themes and related categories.

Table 4.1: Overview of the themes, sub-themes and related categories identified in terms of the results

DEVELOPMENT AND IMPLEMENTATION OF THE WIN-LIFE HEALTH PROMOTION INTERVENTION IN A RESOURCE-CONSTRAINED COMMUNITY		
THEME 1 Aspects for consideration when planning the Win-LIFE intervention	**Sub-theme 1.1** School communities' expectations of the Win-LIFE health promotion intervention	**Category 1.1.1** Educational and informative value **Category 1.1.2** Linked to and integrated with the CAPS **Category 1.1.3** Group work and cooperative learning opportunities **Category 1.1.4** Engaging and enjoyable features **Category 1.1.5** Parent involvement
	Sub-theme 1.2 Food and nutrition-related needs of the community	**Category 1.2.1** Needs that relate to healthy dietary habits **Category 1.2.2** Needs that relate to food production practices **Category 1.2.3** Needs that relate to food preparation practices
	Sub-theme 1.3 Factors negatively affecting the food and nutrition-related needs of the community	**Category 1.3.1** Poverty **Category 1.3.2** Malnutrition and household food insecurity **Category 1.3.3** Dietary practices of the community
THEME 2 Goal-driven development of the Win-LIFE intervention	**Sub-theme 2.1** Encouraging health promotion through schools	**Category 2.1.1** Health promotion role of schools **Category 2.1.2** Schools as facilitators of parent involvement **Category 2.1.3** Possibility of enriched curricula **Category 2.1.4** Value of networks with governmental departments
	Sub-theme 2.2 Strengthening Nutrition Education	**Category 2.2.1** Content that could facilitate positive behaviour change and healthier lifestyle choices **Category 2.2.2** Value of multi-level and multi-component interventions **Category 2.2.3** Involving parents and community members in homework activities **Category 2.2.4** Promotion of sustainable vegetable gardens in the community
	Sub-theme 2.3 Making a contribution to learning	**Category 2.3.1** Value of following an experiential and practical learning approach **Category 2.3.2** Value of group work and cooperative learning

DEVELOPMENT AND IMPLEMENTATION OF THE WIN-LIFE HEALTH PROMOTION INTERVENTION IN A RESOURCE-CONSTRAINED COMMUNITY		
THEME 3 Implementation of the Win-LIFE intervention	**Sub-theme 3.1** General implementation process followed by the participating teachers followed	**Category 3.1.1** Perceived levels of implementation of the Win-LIFE intervention by teachers **Category 3.1.2** Different implementation procedures followed
	Sub-theme 3.2 Support experienced by teachers during implementation of the Win-LIFE intervention	**Category 3.2.1** Support by school principals **Category 3.2.2** Support by other teachers **Category 3.2.3** Support by researchers of the University of Pretoria
	Sub-theme 3.3 Challenges experienced and suggestions by teachers for future implementation of the Win-LIFE health promotion intervention	**Category 3.3.1** Non-alignment with the sequence of topics covered in the CAPS **Category 3.3.2** Implementation schedule and time frame of implementation **Category 3.3.3** Parents' limited cooperation **Category 3.3.4** Teachers' workload

4.2 THEME 1: ASPECTS FOR CONSIDERATION WHEN PLANNING THE WIN-LIFE INTERVENTION

Theme 1 consists of three identified sub-themes, namely the school community members' expectations of the Win-LIFE health promotion intervention (Sub-theme 1.1); food and nutrition-related needs of the community (Sub-theme 1.2); and factors that may affect the food and nutrition-related needs of the community in a negative manner (Sub-theme 1.3). These sub-themes were identified during analysis of the data generated with the parent and teacher participants, the participating university researchers, as well as the representatives from the ARC and GDE.

4.2.1 Sub-theme 1.1: School communities' expectations of the Win-LIFE health promotion intervention

Sub-theme 1.1 captures the views of the teacher participants (who included school principals and deputy principals), university researchers, and representatives from the GDE and ARC regarding their expectations of the Win-LIFE health promotion intervention, targeted at primary school learners in a resource-constrained school setting. The participants evidently agreed that an effective health promotion intervention had to be educational and informative, and align with the CAPS (national

school curriculum) and include and include group work and cooperative learning opportunities. Teachers furthermore indicated the preference for the Win-LIFE intervention to include enjoyable and fun features. In addition, participants accentuated the importance of parent involvement in activities that formed part of the Win-LIFE intervention.

I captured these suggestions in my reflective journal in the following way after facilitating a focus group with the teacher participants to explore their views on the Win-LIFE intervention:

> *I am really surprised about the teachers' (n=24) positive attitude regarding the development and implementation of the Win-LIFE health promotion intervention. It seems as if the teacher participants view the Win-LIFE health promotion intervention as useful, educational and informative. Teachers repeatedly agreed that the Win-LIFE health promotion intervention might benefit learners, their parents and the community as a whole. The teachers seemed to value the Win-LIFE health promotion intervention and acknowledge that the intervention might be useful and that the community can definitely benefit from it* (RJ[6], January 2015).

It follows that Sub-theme 1.1 comprises five categories. In identifying these categories, I was guided by the criteria captured in Table 4.2.

Table 4.2: Inclusion and exclusion criteria for Sub-theme 1.1

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Sub-theme 1.1 School communities' expectations of the Win-LIFE health promotion intervention	Data and ideas indicating the participants' expectations of the Win-LIFE intervention	Data on expectations regarding interventions other than the Win-LIFE intervention
Category 1.1.1 Educational and informative value	Data referring to the importance of the planned Win-LIFE health promotion intervention being educational and informative	Data referring to the components of links with the CAPS, group work, enjoyable elements or parent involvement as favourable attributes of the planned intervention
Category 1.1.2 Linked to and integrated with the CAPS	Data indicating the possibility of integrating the planned health promotion intervention with the national school curriculum	Data related to the components of educational and informative value, group work, enjoyable elements or parent involvement as suitable characteristics of the planned intervention

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[6] Henceforth, the following abbreviations apply: RJ = Reflective journal; FG = Focus group; TP = Teacher participant; FN = Field notes; PRA-W = PRA-guided workshops; PP = Parent participant; UR = University researcher; P = Principal; DP = Deputy principal; I = Semi-structured interview

Category 1.1.3 Group work and cooperative learning opportunities	Data referring to the value of group work and cooperative learning opportunities that could form part of the planned health promotion intervention	Data referring to the components of educational and informative value, links with the CAPS, enjoyable elements or parent involvement as part of the planned intervention
Category 1.1.4 Engaging and enjoyable features	Data relating to the importance of engaging and enjoyable features for the planned health promotion intervention	Data indicating the components of educational and informative value, links with the CAPS, group work or parent involvement as suitable measures of the planned intervention
Category 1.1.5 Parent involvement	Data indicating the importance of parent involvement in the planned health promotion intervention	Data referring to the components of educational and informative value, links with the CAPS, group work or enjoyable elements as suggested features of the planned intervention

4.2.1.1   Category 1.1.1: Educational and informative value

All three schools shared the view that a health promotion intervention should provide learners with knowledge and information to ultimately apply their newly gained knowledge in life and potentially transfer the information to other family and community members. Teacher participants from School A explained this expectation of the proposed intervention in the following way[7]: *This programme must be informative…Learners must actually learn the correct facts in order for them to tell their parents and other siblings about health and healthy food* (FG, 7 April 2014, School A, TP 6). Participants from School B confirmed this view by saying: *The programme must be educative and very informative to everyone. Not only to learners but also their parents. Both must learn from this programme and must actually be able to use what they have learnt* (FG, 7 April 2014, School B, TP 2).

These perceptions were validated by teacher participants from School C, who similarly stated: *What I envision for this programme, is that everyone who is involved must acquire knowledge on how to eat a balanced meal and other facts about healthy food at their homes* (FG, 7 April 2014, School C, TP 4). Another participant from School B shared this view by saying: *This programme must preferably contain a lot of valuable information for parents and learners, even for us as educators,* and *The*

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[7] Participants' responses are provided verbatim and have not been edited.

programme must be interesting … one must be able to learn so much from it and it must be easy to use the information in your daily life (FN, 7 April 2014).

During an informal conversation following the focus group discussion, a teacher from School B confirmed the suggestion that a health promotion intervention has to be helpful and informative, not only to learners, but also to their parents who are often in need of information and guidance. This participant elaborated as follows:

> *You know Karien, I want to tell you about what one of the parents of two learners said to me when I saw her at church. ... she asked me questions about healthy eating, balanced meals and cheap, healthy types of food … before I could explain everything to her she immediately said to me that she wants information to read and also want to know so much more about vegetable gardening. ... she always wanted to start her own, but never knew exactly all the do's and dont's ... she even asked me if I can give her some books, because she wants to share the information with her friend that often visits her ... she was so excited ... so I really wanted to give her something informative that could educate her, but did not have any books or a programme available. A school-based health promotion programme must also be very simple to understand ... the language must be simple and the content must be easy to understand by both learners and parents* (FN, 7 April 2014).

Based on contributions such as these it seems clear that the school community that participated experienced the need for information on healthy food and nutrition-related habits. This need for information did not only apply to the learners who were envisioned to participate in the health promotion intervention after its development, but also to their parents and the broader community.

4.2.1.2   Category 1.1.2: Linked to and integrated with the CAPS

Teacher participants from Schools A and C indicated that the proposed health promotion intervention had to align with the CAPS, thereby emphasising the importance of integrating aspects of the national curriculum with the intended school-based intervention. Participants from School A emphasised such integration with reference to the Win-LIFE intervention, by saying: *It must integrate a lot of our Natural Sciences and Technology Grade 4 curriculum and content. That will make it so much easier for me as an educator to teach them* (FG, 7 April 2014, School A, TP 12).

Teacher participants from School C elaborated on this suggestion, by stating the following:

The programme must integrate the Life Skills and Natural Sciences curriculum we are using currently in our classes ... this will make it so much easier, because we are already knowledgeable about CAPS curriculum and the content ... the intervention can be something extra that teaches the CAPS in another way, using colorful books and nice activities that the learners enjoy (FN, 7 April 2014).

School A confirmed this idea and also referred to teaching methodology, as captured in the following contribution: *The possible similarity between the content of the health promotion intervention and the CAPS curriculum will make a difference in the teaching process as well ... we already know CAPS, so to teach the content of the intervention will be easy* (FG, 7 April 2014, School A, TP 12).

Even though the participants thus proposed an integration of the CAPS into the Win-LIFE intervention, the practical execution of presenting the content in an integrated way eventually posed some challenges. Despite the fact that this suggestion was considered in planning and developing the Win-LIFE intervention, it is apparent that this suggestion perhaps required further discussion to ensure that the sequence and time of presentation of the Win-LIFE intervention better aligned with the CAPS (also refer to Section 4.4.3.1).

4.2.1.3   Category 1.1.3: Group work and cooperative learning opportunities

Teacher participants foregrounded the benefits of group work and suggested that this should be included as part of the Win-LIFE intervention. They explained the value of group work and interaction with peers for learning, by saying: *I think learners might learn more when they participate in group activities. In class, there is not enough time to always do group work when we teach the learners new concepts* (PRA-W, 7 April 2014, School B, TP 2). Another participant mentioned the following: *What I suggest is that the learners don't work alone as part of the intervention. Group-based learning and work will be wonderful for the learners. We don't always have time to incorporate group work in our daily activities* (PRA-W, 7 April 2014, School B, TP 3). This idea was confirmed by a teacher participant from School A who indicated: *Instead of us standing in front of the class and talking and teaching all the time, I think group work must be included in this intervention* (PRA-W, 7 April 2014, School A, TP 4).

In addition to the emphasis on possible enhanced learning through group work activities, the teacher participants shared the idea that group work could allow

learners to experience learning in a positive way. One of the teacher participants from School C mentioned the following examples of possible activities: *As part of the intervention group-based games and competitions can be included as part of the activities, because learners always enjoy games* (PRA-W, 7 April 2014, School C, TP 3). Teacher participants added that group work can enhance learners' social interaction skills thereby allowing them to feel that they belong. In this regard, a teacher participant from School B indicated the following: *I think that learners will be happy to help each other. It might let some of them feel as if they belong. I think the social interaction during group activities will assist with this feeling of belonging* (PRA-W, 7 April 2014, School A, TP 5).

4.2.1.4 Category 1.1.4: Engaging and enjoyable features

According to the teacher participants, it was important for the Win-LIFE health promotion intervention to be engaging and enjoyable for the learners. Participants from School B enthusiastically stated the following: *The kids must love it and must look forward to participate in the programme* (FN, 7 April 2014). These participants elaborated on this view and indicated the following: *Learners must enjoy the health promotion programme and the content included must be practical and the workbooks must also be colorful and attractive* (FG, 7 April 2014, School B, TP 3), using the following example of a practical activity to justify their view: *Let me give you an example, if learners plant seeds in a cotton wool, that will be the most interesting experience and learners will really enjoy it* (FG, 7 April 2014, School B, TP 9).

Teacher participants from School C shared this view and affirmed that learners who enjoy participation in a health promotion intervention may be motivated to attend to and acquire new knowledge, also involving their parents. They said: *What I want to suggest about the health promotion programme is that the learners must enjoy it while they are learning. Learners must also work together with their parents* (FG, 7 April 2014, School C, TP 13). School A agreed: *Learners will be interested in it and they are most of the time keen to acquire more knowledge when they enjoy the tasks or activities* (FN, 7 April 2014). Another participant from School A confirmed this view by saying: *If learners enjoy the different activities on healthy food and preparation, they are more likely to apply it in their own lives. I think it is essential that this intervention must have different interesting, fun and enjoyable features* (FG, 7 April 2014, School A, TP 2).

It follows that the participants proposed the inclusion of fun and enjoyable activities in the Win-LIFE intervention, due to their belief that learning and the application of new knowledge is more likely to occur when a learning experience is enjoyed by the learners. In addition to their view that the learners would more easily learn during activities that are enjoyable, the teacher participants predicted that the learners would probably also tell others about the intervention and knowledge they had acquired. A participant summarised this idea in the following way: *I know these kids, if they enjoy this programme, they will tell other kids and in the same way share information. In that way, they will also then educate other kids about healthy food and other things that will form part of this programme* (FG, 7 April 2014, School C, TP 1). Another teacher from School B added the following: *You will immediately know if they enjoy it, they will say something like, I love it, or it is cool. I think it is something we must all remember. If they enjoy it, they will participate better and share more of what they have learnt* (FG, 7 April 2014, School 8, TP 2). For the participants, an element of fun thus implied the potential of important information on food-related matters reaching a bigger audience than the learners themselves.

4.2.1.5   Category 1.1.5: Parent involvement

Teacher participants viewed the inclusion of parent-child activities in the Win-LIFE intervention as valuable and potentially beneficial to the broader community. Teacher participants from School A explained this perception as follows:

> *Health promotion programmes must teach learners and their family members about healthy living and different food groups and the importance of having a vegetable garden ... if all the parents can be involved and just learn one thing from a health promotion programme and implement it at their homes ... imagine the effect we will see here at school and imagine the effect on this poor community if most parents are involved in any health promotion programme. Learners eat what they get served from their parents, if parents know better, they might give them better food to eat* (FN, 7 April 2014).

In support of this contribution, during an informal conversation with a teacher participant from School B, she stated the following: *If parents are included and involved they will have the necessary knowledge and information to tell their children that if they eat healthy, they will be able to think better, feel better and look beter ... they will also be able to do physically more if they eat healthy* (FN, 7 April 2014). Another participant from School A confirmed this view by saying: *Parent involvement is essential. Without parent involvement there won't be any effect* (FG, 7 April 2014,

School A, TP 4). In his explanation, a participant from School C focused on the potential positive consequences of such parent involvement. He said: *This health promotion intervention … may possibly bring parents, teachers and learners together. This health promotion intervention can teach parents to rely on themselves and would definitely affect our community in a positive way, but then parents must be included and involved* (FN, 7 April 2014).

In elaborating on the potential value of parent involvement for both parents themselves as well as for the broader community, a participant said the following: *I personally think that if learners can get their parents to be more involved with any health promotion initiative at school, parents will also realise you need to eat healthy and they will learn everything about vitamins and nutrients and vegetable gardens ... if all the parents start to eat more healthier, this community will become more healthier* (FG, 7 April 2014, School B, TP 2). As in the case of the proposed integration with the CAPS, even though the teacher participants thus clearly acknowledged the importance of parent involvement in the Win-LIFE intervention, this posed a practical challenge during implementation of the intervention (Consult the discussion of Sub-theme 3.3 further on). Yet, despite the practical execution of the suggestion posing some challenges, the participants were of the view that the involvement of parents would have a positive effect on the broader community.

Based on the contributions of the participants about suitable attributes of the Win-LIFE intervention (Categories 1.1.1 to 1.1.5), I wrote the following in my reflective journal before developing the Win-LIFE intervention, when reflecting on the suitability of the envisioned intervention:

> *This intervention will be developed in such a way that teachers, learners and parents need to be involved. Ultimately, the aim is to bring about change in the wider community. Lessons will be designed in such a way that it doesn't put any additional stress on teachers – they are important facilitators in insuring that learners transfer the 'messages' (content) to their parents. Teachers are furthermore important as motivators – they need to encourage the learners to involve their parents in the homework. Because the intervention will be developed based on the current South African CAPS curriculum, teachers will be able to relate easily to the content, lessons and practical work that will be included in the workbooks. The workbooks will also be designed in a colorful way in order to attract learners to work in and learn from the content that will be included in the books. Hopefully learners will find this intervention enjoyable and teachers and parents will find it stimulating and interesting* (RJ, 13 June 2014).

4.2.2 Sub-theme 1.2: Food and nutrition-related needs of the community

Sub-theme 1.2 captures the parent and teacher participants' views about the food and nutrition-related needs of the resource-constrained community involved. This part of the intervention formed part of the broader Win-LIFE project, and involved two MEd students (working under my supervision), who focused on the views of the two different groups of participants. As such, my discussion of this sub-theme is based on an integration of the data that was generated as part of the two MEd studies. The sub-theme comprises the following three categories: needs related to healthy dietary habits (Category 1.2.1); needs related to food production practices (Category 1.2.2) and needs related to food preparation practices (Category 1.2.3).

As background to my discussion of this sub-theme, I include an excerpt from my reflective journal:

> *Before the actual planning and development of the Win-LIFE intervention started, we conducted a situational assessment. During this exploratory process, specific food and nutrition-related needs were identified by the participating community members (teachers and parents). I found that an exploration of (community-based) food and nutrition-related needs by the participating community members provided insight into the nature and causes of the food and nutrition-related challenges. In order to be more effective, we adopted a collaborative approach during the situational assessment, planning, development and implementation of the Win-LIFE intervention. ...I am well aware of the fact that the degree to which community members participate during decision-making, planning, development and the implementation of health promotion interventions may vary, but I am certain that their active participation may lead to an increased self-esteem and a sense of ownership. This community-based situational assessment assisted us as researchers to determine community members' current knowledge, skills and practices related to food and nutrition, as well as to determine the gap between their current and best practices. By means of this situational assessment we were able to ask questions, compare answers and make informed decisions about what should be included in the Win-LIFE intervention to improve the identified food and nutrition-related needs in a collaborative manner* (RJ, 10 April 2017).

The various groups of participants reacted positively to the strategy that was followed for the Win-LIFE project, involving people on ground level to explore the specific needs of the community before developing the health promotion intervention. Excerpts such as the following attest to this:

❖ *You know I really want to say that as parents we appreciate that you are going to include the things that we have told you about today … our needs that we have*

about food … the things that we want to learn more about and need information on (PRA-W, 11 February 2013, School A, PP 2)

❖ *I think it is wonderful that we sat here today as a group together with the university and students and discussed everything as a group and decided as a group what our needs are and what should form part of the programme* (PRA-W, 11 February 2013, School B, DP)

❖ *Today's focus on the needs of the parents and learners also helped me to think about my own knowledge and practices in terms of food choices, how I prepare food and also what I know about vegetable gardens* (PRA-W, 11 February 2013, School A, TP 3).

In identifying the second sub-theme of Theme 1 and the related categories for the sub-theme, I was guided by the criteria summarised in Table 4.3.

Table 4.3: Inclusion and exclusion criteria for Sub-theme 1.2

	INCLUSION CRITERIA	**EXCLUSION CRITERIA**
Sub-theme 1.2 Food and nutrition-related needs of the community	Data that indicates food and nutrition-related needs of the participating resource-constrained community, in terms of food production, preparation and consumption practices	Data on the needs of people outside the participating community or that does not concern food and nutrition-related practices
Category 1.2.1 Needs that relate to healthy dietary habits	Data that relates to the communities' needs in terms of healthy dietary and food consumption practices	Data that concerns the need for information and guidance on food production or food preparation practices
Category 1.2.2 Needs that relate to food production practices	Data referring to the need for information and guidance on health and effective food production practices	Data related to the need for information and guidance on healthy dietary habits or food preparation practices
Category 1.2.3 Needs that relate to food preparation practices	Data related to the need for information and guidance on healthy and effective food preparation practices	Data that concerns the need for information and guidance on healthy dietary habits or food production practices

4.2.2.1   Category 1.2.1: Needs that relate to healthy dietary habits

Both the teacher and parent participants indicated the need for the school community to be better informed regarding healthy dietary habits. The teacher participants referred to the need for basic information and for community members to acquire

knowledge about what healthy eating entails, as well as of the consequences of unhealthy eating habits. According to the teachers, the community members required information to be able to answer questions such as the following:

How do I eat healthy? What does a healthy diet consists of? (FN, 12 September 2013). To this end, a teacher from School C for example emphasised the following:

Parents need workshops and training about healthy food and balanced diets. The parents in our community don't eat healthy because they don't have the correct information (PRA-W, 11 February 2013, School C, TP 5). The teacher participants also indicated this need when compiling PRA-matrices (posters) during small group discussions, as captured in Photograph 4.1.

Photograph 4.1: Perceived needs of the community as indicated by teacher participants from School C (PRA-W, 11 February 2013)

Teacher participants from School C furthermore confirmed the perception that community members would require information on nutrients to change any unhealthy dietary habits. One of the teachers added that community members could be urged to follow healthy eating habits and avoid unhealthy food once informed about what this entails, saying the following: *No junk food should be served to children, give more of the nutritional foods, e.g. fruits and vegetables* (PRA-W, 11 February 2013, School C, TP 5). Another teacher participant specifically referred to examples of alternative food choices and said:

> *Community members have to know that they should choose white meat instead of red meat, brown sugar instead of white sugar, tea should be Rooibos or green tea instead of coffee. Black tea also, and then they need to drink water instead of fizzy drink, drink milk or juice, and they must use olive oil instead of sunflower oil. Sunflower oil is healthy but not like olive oil, but olive oil is expensive* (PRA-W, 11 February 2013, School C, TP 4).

The parent participants similarly indicated that the community (including themselves) required guidance on healthy eating habits, thereby sharing the view of the teachers. During an informal conversation with some of the parent participants their need to obtain information and learn about healthy dietary habits seemed clear, as captured in the following field notes where I outlined a parent's contribution: *There are many of us who would like to learn more about healthy eating and what we can do to support our neighbors or even our own family members ... you know if my neighbor is obese or my mother has cancer, I want to learn what food will be the best to support them* (FN, 11 February 2013).

Closely related, the teacher participants added that community members also required information about the risks involved when practicing unhealthy eating habits, saying: *Community members need to be aware of the risks of unhealthy diets and unhealthy eating. They must know what is going to happen to you if you continue to eat fast food and unhealthy food every day* (FN, 12 September 2013). Another teacher participant added: *In five years to come most South Africans will be suffering from sugar diabetes* (FN, 12 September 2013) and *Tell people what could go wrong and don't just tell them what they should do, they must know why they must do it* (FN, 12 September 2013). During an informal conversation with one of the teachers after the member checking session, she elaborated as follows:

> *… people here in our community need a lot of guidance and information to be able to live more healthier lives. People also need examples ... we can't just tell them to eat healthy. They must see and learn why they need to eat healthy by means of the correct information. They must for example get information on and learn why vitamins are so important with specific examples ... they must learn that there are food that build your body, food that is good for growth etc. They don't just want to sit and listen or read a pamphlet they get from the clinic ... people want information, we must just provide it to them* (FN, 12 September 2013).

As such, the teacher participants emphasised the importance of conveying information to community members by means of practical examples. Participants from School A mutually agreed that community members needed information on the different types of food and nutrients, providing the following reasons for this view: *In our community you will find that every day community members just eat pap and meat, milk and pap and cabbage. You'll find that they will be malnourished. In your meal you have to have protein, carbohydrates, vitamins, oil and also mealie rice* (PRA-W, 11 February 2013, School A, TP 4). Teacher participants from School B

similarly accentuated the importance of promoting healthy eating habits: *People should be taught why they should eat healthy food and they should also be taught about food grouping. Provide them with reasons to not eat junk food… also there should be an explanation why they must stick to healthy eating habits and not eat junk food* (PRA-W, 11 February 2013, School B, TP 8). Photograph 4.2 is a visual representation of the needs of the community, as perceived and indicated by the teacher participants.
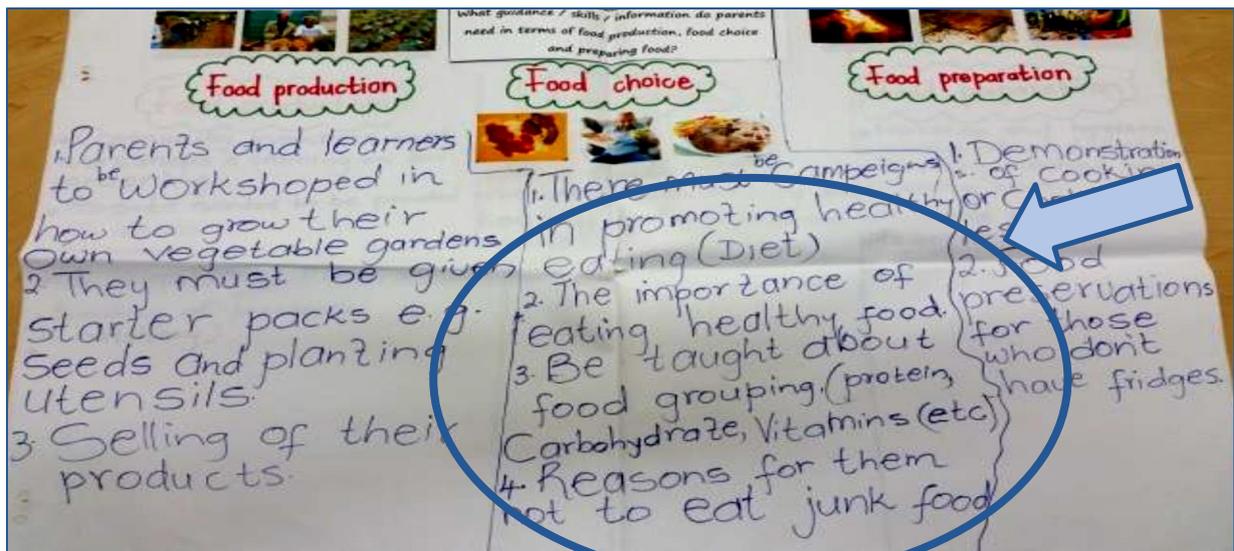
Photograph 4.2: Needs of the community as experienced by teacher participants from School C (PRA-W, 11 February 2013)

In line with the suggestions made by the teacher participants to inform the community of the risks involved in unhealthy eating habits, the parent participants emphasised the community's need to be informed about the prevention of non-communicable diseases through healthy dietary habits. Parent participants specifically wanted to understand how nutritious dietary habits may combat non-communicable diseases, such as diabetes, high blood pressure, cancer and other heart-related challenges. They said: *We would like to know more about what type of food that we can eat to prevent diseases like diabetes, high blood, cancer and heart diseases. We need information on what we can do and eat to prevent us from getting sick* (PRA-W, 11 February 2013, School C, PP 5), as well as *We need to learn our community about diabetes. It is killing us. Many people in our community need the correct information on what healthy choices people need to make in order to prevent diabetes* (FN, 12 September 2013). Another parent participant added the following during an informal conversation: *My parents died of diabetes. I don't have diabetes myself, but I want to*

know what we can eat and do to make sure we don't actually get it ... I want to learn about healthy eating so that I don't get it (FN, 11 February 2013). Photograph 4.3 captures some of these topics that the parent participants reportedly required information on.
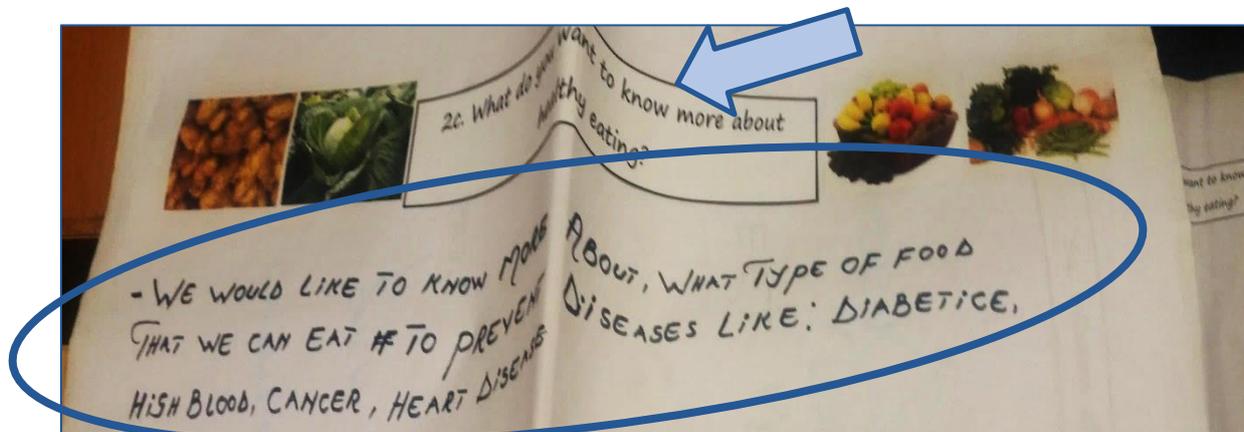
Photograph 4.3: Needs of parent participants, as indicated by School C (PRA-W, 11 February 2013)

Many parent participants seemed to be concerned about obesity. Parents from School B for example asked: *If you're obese, what kind of food should you eat? How do you know you are actually obese?* (PRA-W, 11 February 2013, School B, PP 2). Another parent participant elaborated by referring to the type of information that could benefit the community and said:

> *There are so many overweight grown-ups and learners in this community, they need to learn and get information about what can happen to you if you are obese, what can happen to your body, your blood sugar levels, your blood pressure……and then they also need information on where they can get effective medical help, what they must eat and what they must avoid……how they can live and eat healthier even if they don't have a lot of money* (FN, 11 February 2013).

In terms of general health concerns, the parent participants from School B expressed a need to acquire information on healthy eating habits that could support the digestive system, asking the following: *Which food can help your digestive system?* (PRA-W, 11 February 2013, School B, PP 8), as well as *Which food can help with bloatedness and constipation?* (FN, 11 February 2013).

Parent participants furthermore seemed curious about the general effect of healthy eating habits on the body and asked: *What sickness does healthy eating cure?* (PRA-W, 11 February 2013, School B, PP 4) and *What happens if you do not eat healthy*

food? (FN, 11 February 2013). In addition, the parent participants mentioned the need for guidance on how to support pregnant women in the community. They indicated the need to *… know about expecting mothers, what must they eat?* (FN, 11 February 2013).

Teacher participants expressed similar views and indicated that pregnant women required information on healthy eating habits during pregnancy (FN, 12 September 2013). Closely aligned, the parent participants from School C indicated that community members were in need of information about healthy eating habits that pregnant women could incorporate in their daily lives, specifically enquiring about the following: *What to eat to prevent disabilities or stillborn children and also when they are growing* (PRA-W, 11 February 2013, School C, PP 7). Photograph 4.4 provides supportive evidence of this contribution.
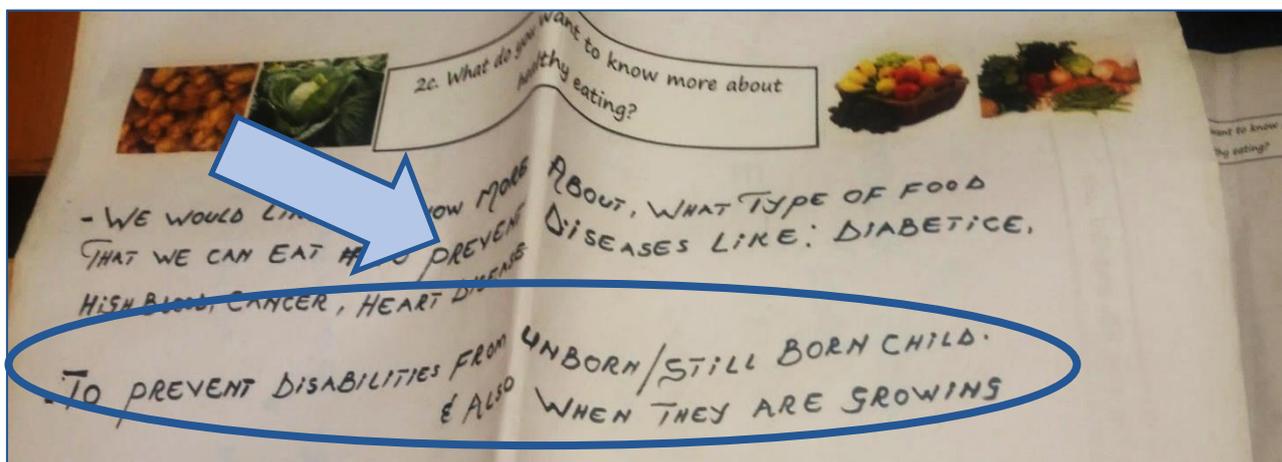
Photograph 4.4: Need for information that could support pregnant women, as experienced by parent participants from School C (PRA-W, 11 February 2013)

In support, a participant from School B said the following during an informal conversation, indicating the intention to guide others once informed herself:

> *I see so many pregnant women and pregnant girls every day here in our community ... and I ask myself often if these women and girls know what to eat and do they eat good food, because the baby develop according to what the mother eats. Sometimes some of these pregnant girls go into the shebeen and drink with their friends ... do they know how bad it is for their babies? I want to learn more about good food for pregnant women so that I can also help them and tell them what kind of food is good for them when they are pregnant* (FN, 11 February 2013).

From contributions such as these it can be deduced that the teacher and parent participants did not merely identify the needs of the community but were also eager

to acquire information themselves. By being informed, the participants could become sources of information and support in the community. In this regard, the parent participants agreed that community members could benefit from information on healthy eating habits as this would enable them to support other community members' in terms of general health. Parent participants from School B, for example, emphasised their concern about physical support provision to ill and vulnerable community members through the provision of healthy meals. They asked: *How can you help sick people to eat healthy food, as well as children and the elderly?* (PRA-W, 11 February 2013, School A, PP 1). Photograph 4.5 captures this question (translated from isiZulu).
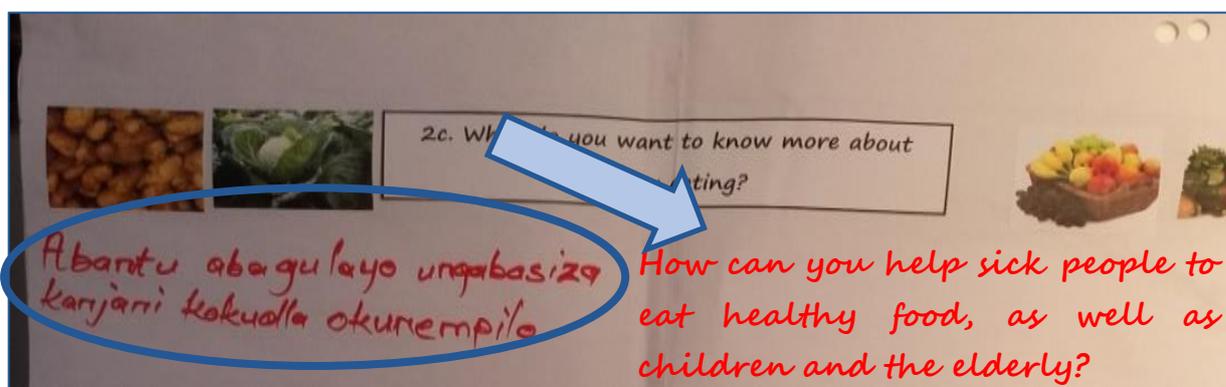
Photograph 4.5: Need for information that could assist others, indicated by parent participants from School B (PRA-W, 11 February 2013)

Finally, the teacher participants from all three schools seemingly agreed that community members could benefit from being informed about the importance of drinking enough water. A number of remarks were made in this regard, with teacher participants, for example, saying: *Part of healthy eating habits is drinking water ...* (PRA-W, 11 February 2013, School B, TP 1), *Community members need to drink more water* (PRA-W, 11 February 2013, School C, TP 5), as well as: *Encourage them to drink lots of water* (PRA-W, 11 February 2013, School A, TP 3). The parent participants agreed that community members needed to drink water as part of healthy dietary habits. They stated the following: *Also make sure you drink eight glasses of water daily* (PRA-W, 11 February 2013, School C, PP 9) and *We need to also stress the importance of drinking water* (FN, 12 September 2013).

In confirmation, a teacher participant from School A said the following during an informal conversation: *We need to learn both parents and learners about the*

importance of drinking water. They need to learn about how good it is for you and we need to set the example as well. When I tell the learners or parents they need to drink more water, I need to do the same … Even at home my own family, friends and neighbors must see me drinking water regularly every day (FN, 12 September 2013). Photograph 4.6 shows the emphasis on the importance of drinking water.
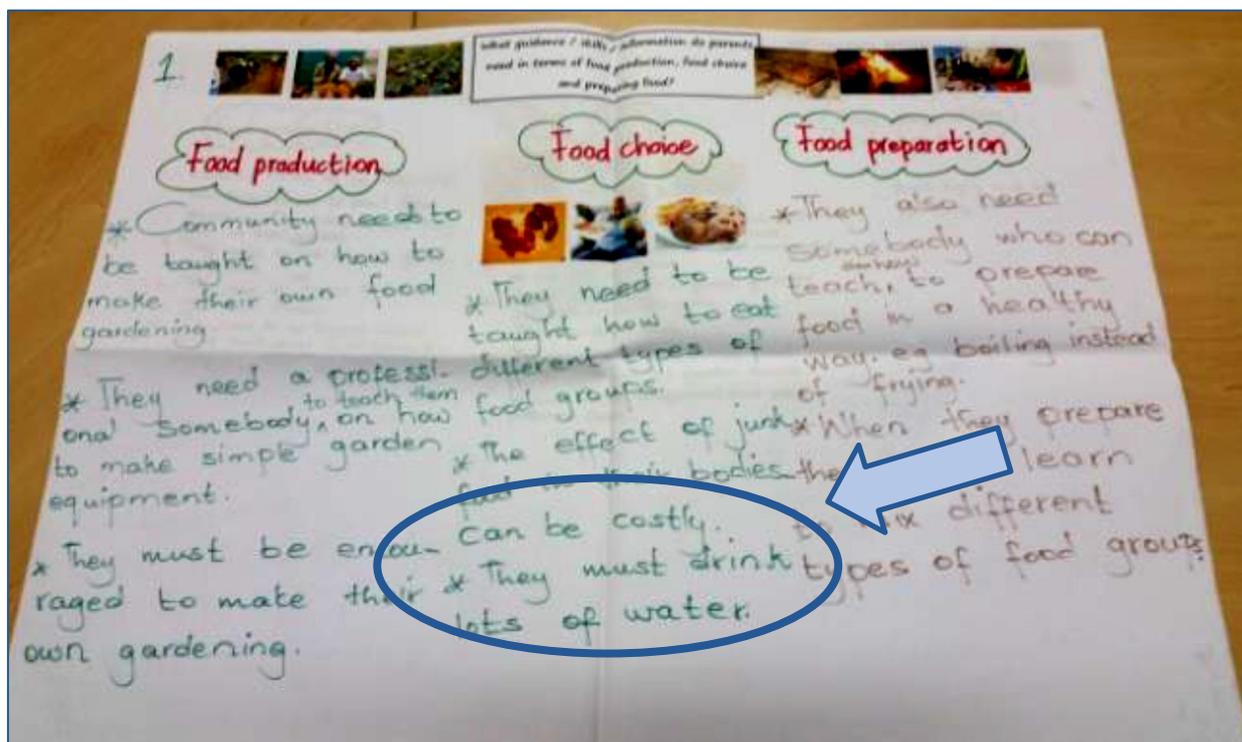
Photograph 4.6: Teachers highlighting the importance of drinking water (PRA-W, 11 February 2013)

In conclusion, the following excerpt from my reflective journal summarises the needs of the parent participants with regard to healthy dietary habits, as reported by the teacher and parent participants:

I learn so much about the parent participants' needs that they have in terms of healthy eating, food choices, preparation and production. Parent participants continuously mentioned their informational needs to assist fellow community members and their own family members. These parents had so many questions about how they can support others by means of nutritious dietary habits to support others' general health, pregnant women and how to prevent non-communicable diseases. It really seems as if they want to learn so much about nutritious dietary habits, not only for themselves but also to help their own families and other community members. Didn't know there would be so much interest in pregnant women and their health. People are 'hungry' for information and want to learn more about nutritious dietary habits (RJ, 11 February 2013).

4.2.2.2　Category 1.2.2: Needs that relate to food production practices

In the teacher participants' view, community members required some guidance in terms of food production practices. In this regard, a teacher from School A stated the following: *Our community members need a professional somebody to teach them about good food production techniques* (PRA-W, 7 April 2014, School A, TP 2), with another teacher adding *Training is needed by the community to be able to produce their own food* (PRA-W, 7 April 2014, School A, TP 2). According to the teacher participants, they were able to provide some guidance based on their own experience. Some of the teachers validated this view by saying: *We as teachers need to guide them because we have the knowledge, skills and experience to teach community members about food production* (PRA-W, 7 April 2014, School A, TP 10), as well as *As teachers we can inform them about good food production techniques and also we can provide them with guidance on aspects such as nutrition as well* (PRA-W, 7 April 2014, School B, TP 9).

In elaborating on their perception, both the teacher and parent participants made contributions such as the following:

❖ *Community members are in need of workshops and training to teach them and to give them information on effective food production techniques* (PRA-W, 7 April 2014, School A, TP 3)

❖ *We identified and know that information is needed on effective food production practices* (PRA-W, 7 April 2014, School C, TP 1)

❖ *We want to learn more about good food production techniques* (PRA-W, 11 February 2013, School C, PP 6)

❖ *Community members' knowledge is poor and their informational needs are high. These community members don't know how to successfully produce their own vegetables* (PRA-W, 7 April 2014, School B, TP 2)

❖ *Parents and learners, actually all the community members must learn how to plant and grow their own vegetables in their own backyards* (PRA-W, 7 April 2014, School C, TP 6).

In line with these perceptions, the parent participants indicated the need for guidance on successful food production practices with specific reference to home-based vegetable gardens. The participants mentioned several benefits of vegetable

gardens, such as food provision, enrichment of the school feeding scheme and the possibility of income generation. A participant, for example, said: *The maintenance of a vegetable garden is something we want to learn more about. We only know some basic things, but we really want to learn strategies we can use to be successful. If we know how to maintain our vegetable gardens effectively, we will be able to produce more food for ourselves and other community members* (PRA-W, 11 February 2013, School C, PP 7). In support, another participant mentioned the following: *There is a great need for fresh food in this community that community members must plant themselves. If we have vegetable gardens at home we can even start contributing to our neighbours and to the school feeding scheme here at the school. Some people can even sell their vegetables. We need more vegetable gardens in the backyards of community members* (PRA-W, 11 February 2013, School C, PP 1).

In support of the parent participants' view, the teacher participants were of the opinion that vegetable gardens could support community members by being a source of food. Teacher participants from School B explained their view as follows: *In this community many older community members are in need of food, especially health food such as vegetables. These older community members can learn how to start a vegetable garden at home where they can plant vegetables such as spinach, maize, cabbage and other vegetables* (PRA-W, 7 April 2014, School B, TP 4). Teacher participants from School C agreed on this suggestion, yet added other vegetables, saying: *They have to learn how to grow vegetables in their own gardens. Vegetables like spinach, tomatoes, onions, carrots, cabbage and beetroot are all good sources of important vitamins* (PRA-W, 7 April 2014, School C, TP 2).

In addition to the indicated benefit of food provision within a context of poverty, the teacher participants from School A mentioned that home-based vegetable gardens could promote interaction and community coalition amongst community members. These participants said: *Not only will home-based vegetable gardens provide food it will also provide opportunities for community members to share their ideas and to build this community as a whole* (PRA-W, 7 April 2014, School A, TP 4). Teacher participants from School B agreed and added that home-based vegetable gardens could assist them to: *… promote networks and improve the general skills level of our community members. Home-based vegetable gardens can bring a community*

together, that's why we are in need of hundreds of home-based vegetable gardens (PRA-W, 7 April 2014, School B, TP 6).

Related to the need for guidance on the establishment and maintenance of vegetable gardens, parent participants indicated the need for information on compost for gardening and how to produce it. One of the parents, for example, said: *Community members want to know how they can make their own compost* (PRA-W, 11 February 2103, School B, PP 9). In addition, the parent participants stipulated that community members could benefit from information on different types of soil, how to control pests and how to grow healthy vegetables. One of the teacher participants agreed, indicating different soil types as an area of support that community members required assistance on. She stated the following: *Community members must also be able to identify the different soil types* (PRA-W, 7 April 2014, School A, TP10).

In elaborating on this idea, the parent participants shared the view that community members required answers to these questions. They asked: *How do we have to prepare the soil in order to produce good vegetables from our garden?* (PRA-W, 11 February 2013, School C, PP 1), and *How can we manage pests such as insects that eat our vegetables? What are different kinds of methods we can use to manage these pests?* (PRA-W, 11 February 2013, School C, PP 2), as well as *Why do our vegetables have worms? What can we do to get rid of these all worms? Also, we would like to know if there is a natural way in which we can manage these worms* (PRA-W, 11 February 2013, School C, PP 4). Other parent participants confirmed that community members, for example, wanted to know the following: *Why do the potatoes I've plant have worms? What can I do to make sure my potatoes are without any worms?* (PRA-W, 11 February 2013, School A, PP 1). All these examples of a need for answers to practical problems highlight the need of the community to gain knowledge that they could practically apply when producing their own food.

On a broader level, the parent participants indicated a need for community members to be informed about seasonal production of vegetables. Parent participants from School C said: *Community members want to learn more about seasonal production* (PRA-W, 11 February 2013, School C, PP 8), whilst others mentioned community members' need for information on seasonal planting by asking *In which season do we plant certain plants?* (PRA-W, 11 February 2013, School B, PP 3). The teacher

participants similarly highlighted the need for community members to be knowledgeable regarding seasonal plants by stating: *These community members also need to be taught about crops that grow in different seasons* (PRA-W, 7 April 2014, School C, TP 6). In terms of specific examples, parent participants asked the following question: *How to plant wheat, sunflower and rice* (PRA-W, School B, PP 4).

Moving beyond food production on a small scale by means of vegetable gardens, the teacher participants shared the view that community members could benefit from acquiring small business and farming skills, as these could in turn result in an income for community households if the correct food production skills were practised. To this end, a teacher participant from School C said the following: *This will empower community members and might also give them a source of income* (PRA-W, 7 April 2014, School A, TP 4). The parent participants similarly highlighted the need for community members to receive information and be equipped with entrepreneurial skills. One of the parents summarised this need as follows: *Community members want to know how to be commercial farmers and supply the market with produce* (PRA-W, 11 February 2013, School A, PP 3).

4.2.2.3 Category 1.2.3: Needs that relate to food preparation practices

During the data generation sessions, the teacher participants articulated their perception that community members required guidance on healthy food preparation practices. These participants specifically indicated that community members could benefit from the preparation of healthier food. A teacher participant from School C summarised this view in the following manner: *When it comes to food preparation they ... community members need somebody who can teach them how to prepare food in a healthy way* (PRA-W, 7 April 2014, School C, TP 7). In support, another teacher participant suggested the following: *People must be taught to prepare or buy balanced food when they get their grants to replace junk food* (PRA-W, 7 April 2014, School B, TP 2).

The teacher participants repeatedly referred to the absence of healthy cooking methods in the participating community. In this regard, they indicated that community members required information on healthy food preparation practices, more specifically on steaming, grilling and baking. A participant, for example, said: *Steaming is encouraged, as well as grilling and baking* (PRA-W, 11 February 2013,

School A, TP 7). Other teacher participants added that community members could benefit from information on suitable cooking times in order to avoid over-cooked meals, and rather opt for substituted preparation practices, as captured in the following contribution: *Overcooking must be avoided they must rather steam their food properly* (PRA-W, 11 February 2013, School C, TP 7). According to the participating teachers, community members were primarily relying on deep-frying as food preparation method at the time of the field work. The following explanation applies: *Most people like frying all the time, so they should actually know the importance of boiling and also when you boil you mustn't over boil* (PRA-W, 11 February 2013, School C, TP 3).

In line with these suggestions by the teacher participants, the parent participants shared similar views. They indicated that community members could benefit from information on healthy food preparation practices, more specifically in terms of preparation methods that will preserve nutrients. One of the parent participants voiced this need in the following way: *Want to learn how to cook and bake in a healthier way* (FN, 12 September 2013) with another one confirming this idea as follows: *The community want to learn more about cooking* (FN, 12 September 2013). Other parent participants agreed, as captured in the following excerpts: *They need information on different cooking methods and the right manner to cook food* (PRA-W, 11 February 2013, School B, PP 3), *They need to learn a variation of cooking methods* (FN, 12 September 2013), and *Different cooking methods and the correct manner to cook food in a healthy manner* (PRA-W, 11 February 2013, School B, PP 3).

Closely related, the parent participants identified knowledge on the utilisation of healthy cooking oil as an important need to address in the community. One parent said the following in this regard: *Most of the time the community only fry their food. They need information on healthy types of cooking oils so that they don't only buy the cheapest available oil* (PRA-W, 11 February 2013, School A, PP 3). In support, another participant from School C expressed the following point of view: *Community members need information on different types of cooking oil, because they only buy the cheapest cooking oil* (PRA-W, 11 February 2013, School C, PP 2). Teacher participants seemingly agreed on this perception and added that the use of cooking oil should be reduced, saying: *Cooking oil must be limited* (PRA-W, 7 April 2014, School B, TP 1), as well as *Avoid unhealthy cooking oil. It is healthier to steam food*

or boil it in water than frying in unhealthy cooking oil (PRA-W, 7 April 2014, School C, TP 3).

The overuse of salt and spices during food preparation practices was raised as another area of concern, as community members allegedly preferred to *boil the chicken then we put lots of spice on it and then we fry it* (PRA-W, 11 February 2013, School C, PP 4). Another example is captured in the following report by a parent participant: *We fry the onion, put the meat in, pour lots of salt and spices and wait until it is well cooked* (PRA-W, 11 February 2013, School C, PP 3), thereby attesting to unhealthy food preparation practices. Teacher participants similarly indicated that: *There's lots of spices* (PRA-W, 7 April 2014, School A, TP 3), whilst they also demonstrated insight when saying that community members should *Avoid too much spicy food and too much salt* (PRA-W, 7 April 2014, School C, TP 5).

The teacher participants, however, related the excessive use of salt and spices to cultural habits, saying the following: *You know in our culture if we prepare food without spices they are not tasty* (PRA-W, 7 April 2014, School A, TP 10). In this regard, parent participants highlighted the need for information on both the advantages and disadvantages of using seasoning, as well as salt. They specifically referred to *Disadvantages and advantages of salt* (PRA-W, 11 February 2013, School C, PP 1). In the same manner the parent participants indicated a need for information on food additives and preservatives.

The teacher participants furthermore mentioned that for community members to be able to prepare food in a healthier manner, the community members would have to become more aware of food labels and how to read and interpret the information on them. The teachers shared the following views: *Whenever they buy or whenever they get the food we need to check on expiry date. We must also check on the preservatives* (PRA-W, 7 April 2013, School A, TP 3), as well as *They must be taught to check the expiry dates* (PRA-W, 7 April 2014, School B, TP 6). The parent participants supported this view and emphasised the importance of understanding the expiry date for canned food and, for example, the reasons for cans sometimes expanding while not yet expired. Along these lines, the parent participants asked: *How long does tin stuff take to expire?* (PRA-W, 11 February 2013, School C, PP 3).

Next, the teacher participants identified information about the storage and preservation of food as important. In this regard, the teacher participants mentioned the following: *They should learn how to preserve dry food more, like dry spinach and dry biltong* (PRA-W, 7 April 2014, School C, TP 5). In elaborating on this need, the teacher participants indicated that community members could potentially find solutions for limited available resources if they were to be informed of this aspect. The participants explained this idea as follows: *And then food preservation can be utilised by those community members who do not have refrigerators. Community members should be encouraged to preserve food if they can't afford to buy the necessary apparatus. They need information on all of these aspects* (PRA-W, 7 April 2014, School B, TP 8).

In support of the teacher participants' views, the parent participants indicated the need for knowledge on effective food processing techniques. Parent participants namely mentioned that community members wanted to know the following: *How do you process food?* (PRA-W, 11 February 2013, School B, PP 6). Parent participants furthermore required information on food storage and posed the following related questions: *How long can food be stored in the fridge?* (PRA-W, 11 February 2013, School B, PP 1), and *How long can food stay in the refrigerator before and after cooking?* (PRA-W, 11 February 2013, School C, PP 6). All these needs that were voiced by the participants underscore the importance of the community being knowledgeable on healthy food preparation, which subsequently informed the content of the Win-LIFE intervention.

4.2.3 Sub-theme 1.3: Factors negatively affecting the food and nutrition-related needs of the community

Sub-theme 1.3 outlines the participants' perceptions of causal factors that negatively affected the needs of the community at the time of data generation. The following three categories apply: poverty (Category 1.3.1); malnutrition and household food insecurity (Category 1.3.2) and dietary practices of the community (Category 1.3.3). In identifying these categories, I was guided by the inclusion and exclusion criteria summarised in Table 4.4.

Table 4.4: Inclusion and exclusion criteria for Sub-theme 1.3

	INCLUSION CRITERIA	**EXCLUSION CRITERIA**
Sub-theme 1.3 Factors negatively affecting the food and nutrition-related needs of the community	Data that indicates causal factors negatively affecting the food and nutrition-related needs of the community members	Data referring to causal factors affecting the food and nutrition-related needs of other communities
Category 1.3.1 Poverty	Data that concerns the effect of poverty on the food and nutrition-related needs of the community	Data referring to malnutrition, household food insecurity or dietary practices of the community, as factors affecting its food and nutrition-related needs
Category 1.3.2 Malnutrition and household food insecurity	Data referring to the effect of malnutrition and household food insecurity on the food and nutrition-related needs of the community	Data referring to poverty or dietary practices of the community, as factors affecting its food and nutrition-related needs
Category 1.3.3 Dietary practices of the community	Data related to community-based dietary practices that could negatively affect food and nutrition-related needs in the community	Data referring to the effect of malnutrition, household food insecurity or poverty as factors affecting its food and nutrition-related needs

4.2.3.1 Category 1.3.1: Poverty

The participants regarded poverty as a multi-layered, multi-dimensional challenge faced by the community where the current study was undertaken. One of the university researchers explained poverty in the following way: *Individuals and families residing in resource-constrained communities are confronted with poverty in the form of numerous overlapping hardships, such as hunger, malnutrition, a lack of sanitation and electricity, as well as inadequate schools* (FG, 14 November 2013, UR 5). Another researcher added the following: *Individuals who are impacted by poverty can be portrayed as not having the means to afford basic human needs such as clean water, nutrition, health care, education, clothing and shelter* (FG, 14 November 2013, UR 6).

Closely related, another participant mentioned that South African resource-constrained communities are typically challenged not only by poverty but also by high incidences of the following: *Job losses, shortages of job prospects and inadequate access to water* (FG, 14 November 2013, UR 2). One of the participants specifically referred to the participating community, saying: *From what I've heard it is clear that*

the participating resource-constrained community is typically confronted with household food and nutrition insecurity, as well as unsatisfactory approaches pertaining to healthy dietary habits (FG, 14 November 2013, UR 4).

According to the participants, poverty could thus be regarded as the main cause of hunger and the basis of unhealthy eating habits. One participant said: *Poverty may also cause non-communicable diseases* (FG, 14 November 2013, UR 2). As background to this statement, a participant mentioned that individuals residing in resource-constrained communities usually live at subsistence levels, with the following result: *Individuals in resource-constrained communities frequently have by no means a choice but to consume a diet that is poor in quality with reduced nutrients* (FG, 14 November 2013, UR 4). Closely related, another participant referred to food-related poverty, stating the following: *Food-related poverty is a daily occurrence in resource-constrained communities and indicates the individual household's incapacity to access suitable and sufficient enough food and from everything that I have heard about the participating community, it seems as if food-related poverty is also present there* (FG, 14 November 2013, UR 1).From statements such as these, the link between poverty on the one hand and hunger, malnutrition, unhealthy food consumption patterns and illness on the other, seems clear.

When discussing poverty, a participant mentioned that even though the global percentage of people living in extreme poverty has been halved, both women and children still appeared to be affected most by poverty. This participant said the following: *Although poverty has been reduced on a global level, Sub-Saharan Africa remains to be the region that is on the whole affected by poverty* (FG, 14 November 2013, UR 8). In response to this, another participant emphasised the importance of school-based health promotion interventions in combatting poverty and by implication addressing the MDGs and SDGs, by saying that: *The aim of school-based health promotion interventions should ultimately focus on the eradication of poverty in order to be able to decrease the burden of non-communicable diseases and nutritional disorders being associated with poverty and malnutrition* (FG, 14 November 2013, UR 7).

When generating data with the teachers and the parents, poverty was similarly foregrounded as a prominent factor affecting the community and its food and nutrition-

related needs. More specifically, the participants emphasised how poverty affected the food-related habits and intake of community members, as discussed under Sub-theme 1.2. In the words of one of the participants: *It is a poor community indeed. I think the reason being that most of the parents in this area are unemployed* (PRA-W, 7 April 2014, School A, TP 1).

4.2.3.2   Category 1.3.2: Malnutrition and household food insecurity

The participants emphasised hunger and malnutrition as ongoing global challenges that stem from poverty. They pointed out that: *Poverty stands out as a key factor causing food and nutrition insecurity, as well as malnutrition* (FG, 14 November 2013, UR 6) and *Malnutrition decreases community members' capacity to be taught, learn and work, as well as to take care of their own family members* (FG, 14 November 2013, UR 1). In addition, another participant referred to eating habits within families, stating the following: *Studies in South Africa have shown a relation between the competence of the parents regarding healthy dietary habits and the nutritional status of their children* (FG, 14 November 2013, UR 5). These contributions highlight the participants' perception that poverty caused hunger and malnutrition, as it determined the food consumption patterns of both adults and children in the community.

In the participants' view, the food choices of the community members required attention. One of the participants explained the perceived unhealthy eating habits of the children of the community and the negative effect of street vendors, in the following way: *School-going children within resource-constrained communities, and it seems as if this is true in this participating community as well, that these children have a tendency to purchase snacks and unhealthy items from vendors outside the school grounds* (FG, 14 November 2013, UR 8). Another participant elaborated by saying: *The lack of healthy food choices and unhealthy dietary habits, will lead to community members not reaching their full potential, and the continued existence of malnutrition* (FG, 14 November 2013, UR 6).

As such the participants seemingly realised the negative effect of malnutrition and unhealthy eating habits on individuals' functioning and performance. When discussing food choices, the participants specifically referred to the overconsumption of carbohydrates, implying limited nutritional value, yet cheaper food options. They stated the following: *During meals at home, children mostly consume carbohydrates*

in the form of bread and porridge and we all know that nutritional value of bread and porridge is lacking when children and adults mostly consume carbohydrates during their meals (FG, 14 November 2013, UR 4).

A university researcher confirmed that individuals residing in the specific participating resource-constrained community tended to consume less healthy food at the time of the field work, which could result in malnutrition or food insecurity. She mentioned several problem areas in relation to nutrition and food security, saying that: *These community members furthermore limit their portion sizes, miss out on meals or at the same time also skip food intake when there isn't enough for everyone to eat* (FG, 14 November 2013, UR 3). According to another participant, the unhealthy dietary habits of the community members and the occurrence of malnutrition could be ascribed to *the low cost of widely available energy-dense, but nutrition-poor food such as bread and porridge that families consume on a daily basis during almost all their meals* (FG, 14 November 2013, UR 1). Another participant supported this view and summarised the trend to consume unhealthy food options as follows: *Some of the fundamental influences related to the unhealthy dietary habits of these community members in the participating resource-constrained community include amongst other things affordability, accessibility to food, as well as a lack of education* (FG, 14 November 2013, UR 7).

4.2.3.3 Category 1.3.3: Dietary practices of the community

According to the participants, members of the community generally did not follow healthy dietary guidelines. For example, parent participants indicated that many community members did not consume breakfast on a daily basis, as is evident in the following quotation: *Many people that live in this community don't eat breakfast* (PRA-W, 11 February 2013, School A, PP 3). Parent participants from School C agreed on this report, and said: *It is general knowledge that a lot of the learners and their families in our community do not eat breakfast before they go to school* (FN, 12 September 2013, School C, PP 4). These statements made by parent participants were echoed by the teacher participants, who indicated the following: *There are several kids and parents in our community that don't eat anything at all early in the morning* (PRA-W, 7 April 2014, School A, TP 3). Based on these contributions it can be deduced that many parents and children in this specific community allegedly often did not consume any food for breakfast.

As briefly referred to in a previous section, the parent participants accentuated the tendency of community members to primarily consume carbohydrates if they did indeed have breakfast. A parent participant explained this as follows: *In our community we like to eat porridge in the morning* (PRA-W, 11 February 2013, School C, PP 2). Parent participants from School A mentioned the same trend, saying: *In the morning at home we prefer to eat porridge and tea* (PRA-W, 11 February 2013, School A, PP 1). This report was verified by the parent participants from School B who added: *At home most of the time we eat porridge, bread and we drink tea* (PRA-W, 11 February 2013, School B, PP 9).

In support of the parent participants' indications, teacher participants confirmed that carbohydrates were often consumed for breakfast by the community members. A teacher participant for example reported the following: *In our community in the morning community members usually eat pap almost every day* (PRA-W, 7 April 2014, School A, TP 3). The teacher participants from both Schools B and C conveyed similar opinions. They added: *In this community almost 20% of the community members eat the previous night's leftovers. Some of them will eat pap and meat and some of them will eat pap and tea* (PRA-W, 7 April 2014, School C, TP 2), and *80% of families in our community eat tea and bread* (PRA-W, 7 April 2014, School B, TP 3).

When discussing the lunch habits of the community members, the parent participants mentioned that families in the community mostly preferred carbohydrates with some vegetables for lunch. Parent participants from School C, for example, said the following: *People usually prefer to eat pap with vegetables such as spinach and cabbage when they have lunch* (PRA-W, 11 February 2013, School C, PP 3). Parents from School B validated this report by saying the following: *Families prefer to eat pap and beans or pap and peas, because the vegetables are healthy* (PRA-W, 11 February 2013, School B, PP 3). Similarly, parents from School A specified the following: *Community members usually eat pap with cabbage or potatoes beans or tomatoes* (PRA-W, 11 February 2013, School A, PP 1).

In terms of the lunch habits of children, the teacher participants from School B indicated that the majority of the learners ate lunch at school. These teachers explained the background to this in the following way: *Learners are eating here at the*

school because we have a feeding scheme. Actually all the schools in our community do have a feeding scheme where learners are being fed from (PRA-W, 7 April 2014, School B, TP 4). Teacher participants from School C seemed positive about the feeding scheme that was similarly implemented at their school, saying: *I think more than 80% of the learners in our community are being lifted up because of the feeding schemes at the schools* (PRA-W, 7 April 2014, School C, TP 2). As such, even though the children of the community were often exposed to unhealthy dietary habits, the national school feeding scheme seemingly provided in some of their basic daily nutritional needs.

With regard to the consumption of meat, the parent participants stated that community members occasionally added meat, more specifically chicken to their lunch meals. Some of the participants from School C referred to the specific parts of chicken that were generally consumed during lunch in the community, referring to *… gizzards, chicken livers, chicken heads and chicken necks with pap for lunch* (PRA-W, 11 February 2013, School C, PP 6). In addition, the parent participants from School B mentioned the following: *Occasionally we eat tin fish with pap* (PRA-W, 11 February 2013, School B, PP 9). The teacher participants from both Schools B and C confirmed that learners occasionally received tinned fish at school during lunch.

Teacher participants from Schools A and B mentioned other examples, referring to unhealthy fast food, such as *spatula*, *bunny chow*[8] and *spikos*[9] as food consumed by some of the community members during lunch. The teachers explained what a *sphatlo* is by saying the following: *We know sphatlo as bread with fillings such as atchar, cold meat and chips* (PRA-W, 7 April 2014, School A, TP 2) whilst other teacher participants similarly reported that: *Some of the parents and learners in our community like to eat bunny chows, sphatlo, spikos, baked beans, tinned fish and atchar when they have their lunch* (PRA-W, 7 April 2014, School B, TP 3). The teacher participants furthermore mentioned that a number of learners tended to spend their money on unhealthy food items during break times, saying the following: *Some of the learners here at our school don't like the food from the feeding scheme and rather go to the tuck shop and buy chips, sphatlo, which has chips, atchar and processed cold*

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[8] Type of food usually sold by street vendors, consisting of a quarter loaf of white bread and fried potato chips as the main ingredients (Steyn et al., 2011).
[9] Usually eaten on bread. Consists of atchar, tinned fish, polony and tinned spaghetti (Viljoen, 2010).

meat inside (PRA-W, 7 April 2013, School C, TP 2). Despite the possibility of receiving a nutritional meal, some learners thus seemingly chose other options of a nutrition-poor nature.

For dinner, the teacher participants indicated that community members preferred to eat carbohydrates (such as maize meal, bread and rice), vegetables and protein (such as chicken, fish and Mopani worms). Teacher participants referred to the following examples: *Community members usually eat chicken feet and chicken neck, with pap or sometimes just pap and morogo for dinner* (PRA-W, 7 April 2014, School B, TP 7). In addition, parent participants added the following food items that were apparently often consumed for dinner: *During dinner time, most of our community members usually eat starches such as rice and vegetables such as cabbage, with chicken necks* (PRA-W, 11 February 2013, School C, PP 3), and *In our community we usually eat samp and beans, and sometimes fish or chicken, especially the braai pack* (PRA-W, 11 February 2013, School C, PP 8). Based on these contributions it seems clear that the participants were of the view that the dietary habits of the community tended to be unhealthy. These practices would inevitably have an effect on the food and nutrition-related needs of the community, as discussed under Sub-theme 1.2.

4.3 THEME 2: GOAL-DRIVEN DEVELOPMENT OF THE WIN-LIFE INTERVENTION

In Theme 2, I report on the data that was generated on the collaborative development of the Win-LIFE intervention that was determined by certain goals. As part of Theme 2, I identified three sub-themes or goals for the intervention, being the following: encouraging health promotion through schools (Sub-theme 2.1); strengthening nutrition-related education (Sub-theme 2.2) and making a contribution to learning (Sub-theme 2.3).

4.3.1 Sub-theme 2.1: Encouraging health promotion through schools

The participants agreed that schools can facilitate both prevention and intervention Programmes aimed at health promotion, not only with learners, but also involving their parents and even members of the broader community. The participants thus affirmed the importance of schools as systems of care, which implies health

promotion as well as the development and well-being of learners, their families and community members. I reflected on these views in the following way in my reflective journal after the first series of semi-structured interviews with the school principals and deputy principals of the three participating primary schools:

Most learners spend up to thirteen of their formative years, from early childhood to young adulthood, in a school environment. Schools provide ideal opportunities that aim to address health and socio-economic factors that affect learners in South Africa. Once educated and informed, these learners can become influential sources of health information and models of healthy behaviour to their families and the wider community. I firmly believe that education can reach far beyond the walls of health facilities to educate citizens (parents and learners) about health promotion through schools (RJ, 11 August 2018).

In this section, I discuss Sub-theme 2.1, which outlines the way in which schools can reach the goal of contributing to health promotion, as perceived by the participants, for the specific resource-constrained community. The sub-theme comprises the following four categories: health promotion role of schools (Category 2.1.1); schools as facilitators of parent involvement (Category 2.1.2); the possibility of enriched curricula (Category 2.1.3) and the value of networks with governmental departments (Category 2.1.4). In identifying the categories of Sub-theme 2.1, I relied on the inclusion and exclusion criteria captured in Table 4.5.

Table 4.5: Inclusion and exclusion criteria for Sub-theme 2.1

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Sub-theme 2.1 Encouraging health promotion through schools	Data related to the goal of facilitating health promotion through schools during implementation of the Win-LIFE intervention	Data referring to health promotion initiatives by other organisations and government departments
Category 2.1.1 Health promotion role of schools	Data referring to the potential role of schools in promoting health and well-being amongst learners, their families and the broader community	Data indicating the value and importance of parent involvement, enriched curricula or external networks when schools become involved in health promotion initiatives
Category 2.1.2 Schools as facilitators of parent involvement	Data related to the way in which schools can facilitate parent involvement and collaboration	Data referring to the value and importance of the health promotion role of schools, enriched curricula or external networks when schools become involved in health promotion initiatives

Category 2.1.3 Possibility of enriched curricula	Data that indicates the possibility of enriched curricula as possible avenues to support health and well-being in the community	Data related to the value and importance of the health promotion role of schools, parent involvement or external networks when schools become involved in health promotion initiatives
Category 2.1.4 Value of networks with governmental departments	Data referring to the value of schools in establishing networks with governmental departments for the promotion of health and well-being in the community	Data referring to the value and importance of the health promotion role of schools, enriched curricula or parent involvement when schools become involved in health promotion initiatives

4.3.1.1 Category 2.1.1: Health promotion role of schools

The Win-LIFE intervention was developed against the background of the participants perceiving schools as important agencies for health promotion in a resource-constrained community. In terms of the role that schools can potentially fulfil in health promotion, the deputy principal of School B described these institutions as ideal environments to support and promote the health of school-going learners. She said: *I think schools are at the center to improve the health, nutritional status and well-being of learners* (FN, 26 August 2014). This perception was confirmed by the principal of School A, who highlighted schools as unique settings, by saying: *Schools are in the ideal position to reach several people in communities surrounding schools and support them through health promotion* (I-1, 26 August 2014, School A, P). University researchers shared this view and explained their thinking as follows: *I think it is important to acknowledge that schools are ideal settings to 'answer' to the needs indicated by the teachers and parents. Schools are easy-access settings, with day-to-day contact with large groups of learners* (FG, 14 November 2013, UR 5); *Schools do not only learn children, schools can also promote their health and wellbeing* (FN, 14 November 2013), *Schools are important settings to promote health, well-being and development through teaching, learning and information-sharing* (FG, 14 November 2013, UR 2).

Several other participants referred to the benefit of schools providing a platform through which large groups of people can be reached when aiming to promote health and well-being. The participating principal of School A, for example, emphasised this as follows: *I think schools are the most effective and efficient way to reach large groups of people* (I-1, 26 August 2014, School A, P). The deputy principal agreed and

elaborated on the potential impact of schools on learners during the various developmental stages of their lives, by saying: *Schools can reach large groups of learners at influential stages in their lives, for example, during early childhood and adolescence. Schools are also in a position to influence and form lifelong healthy eating patterns, during every single grade* (I-1, 26 August 2014, School A, DP).

During an interview with another deputy principal, she related the health promotion role of schools to possible benefits for the community and the learners involved. She explained her view in the following manner:

> *… schools can educate learners, parents and community members about health and nutrition and in that way address food, its preparation and its consumption, as well as vegetable production and educate everyone that it is an essential positive and enjoyable aspect of life. To be positive and to enjoy life, you need to be healthy and in order to be healthy, you need to eat healthy and have knowledge about health. Schools can also provide opportunities for learners to practice important skills, such as decision-making about food choices and decisions about vegetable gardening and the production of vegetables. You know, schools can do so much if everyone is willing to participate* (I-1, 26 August 2014, School B, DP).

In line with the deputy principal of School B's opinion, I wrote the following in my reflective journal: *Schools have the capacity to improve and protect the health of the school community, through the teaching and learning of particular topics and the incorporation of a participative approach. It seems as if the need for partnerships and close collaboration involving the education and health sectors is almost universal* (RJ, 2 August 2017). As a result of these contributions, during the development of the Win-LIFE intervention, the goal of health promotion and the role that schools can fulfil in reaching this goal, were continuously considered.

4.3.1.2   Category 2.1.2: Schools as facilitators of parent involvement

As discussed in Section 4.2.1.5 (Category 1.1.5), the participants repeatedly emphasised the importance of parent involvement. In line with this expectation, the participants regarded schools as being in a good position to facilitate parent collaboration and involvement in school-based interventions. In this regard, the principal and deputy principal of School A underscored the importance of including learners, their parents and members from the broader community in school-based health promotion initiatives. The principal of School A shared this view by saying that:

One usually thinks immediately only about the learners when you talk and think about

school-based health promotion. Schools can also promote health or health-related information to educators, families and other community members (I-1, 26 August 2014, School A, P).

In line with this view, the principal of School C highlighted the supportive role that schools can play to promote the health of not only learners, but also their parents. The principal stated the following: *Schools provide the best opportunities to impact on both the immediate and long-term health of not only learners, but also their parents and the community surrounding the school* (I-1, 26 August 2014, School C, P). The deputy principal of School A added the following: *Although we are not nearly close to being a health promoting school, we are in a position to promote health in cooperation with parents and community members* (I-1, 26 August 2014, School A, DP), thereby emphasising the importance of involving parents (and the community) when attempting to facilitate positive change. In support, the principal of School A accentuated the value of including parents in school-based health promotion initiatives, by stating the following: *I want to highlight the involvement of parents again. At our school, we are struggling a lot with it, but I have seen the difference it can make. Schools that can promote health are in the position to inform families and community members about healthy eating and how to prevent malnutrition* (I-1, 26 August 2014, School A, P).

The deputy principal gave the following example to illustrate the significance of parent involvement in school-based health promotion initiatives: *If one parent tells her friend about one fact on healthy eating or give them one example ... that friend can experiment with it or even better, tell another friend or family member. I just know that if parents are more involved in health promotion initiatives at primary school level, the health of learners, parents and the community can change for the better and diseases such as diabetes won't be as prominent* (I-1, 26 August 2014, School A, DP). As such, the focus did not fall only on the potential value for learners and their parents if the latter were to be involved in interventions. The participants' contributions rather referred to a wider audience and to the benefit that parent involvement could imply on a broader level. Keeping this in mind, the Win-LIFE intervention was developed in a way that parent involvement could be encouraged, with the broader goal of facilitating positive change in the community.

4.3.1.3   Category 2.1.3: Possibility of enriched curricula

The school principals and deputy principals confirmed that health promotion forms part of the CAPS, more specifically of the Life Skills curriculum. Participants mentioned that, although the Life Skills subject included many topics related to health and maintaining a healthy lifestyle, the teaching of the subject could be further supplemented by additional enriching activities. They suggested the following: *There isn't adequate time in the current curriculum to fully address everything in a developmentally appropriate manner related to health, as well as all the other social issues in our community. As teachers and as the school we are in an ideal position to support health promotion amongst learners and their parents* (FN, 5 August 2017).

In this regard, one of the principals indicated an awareness that schools had been given the mandate and the responsibility to encourage healthy eating habits amongst learners. He stated that: *Schools also provide a setting to introduce Nutrition Education through the Life Skills learning area to learners to promote good nutrition and healthy eating. Especially in the lower grades. There are excellent opportunities because eating habits are formed early in life* (I-1, 26 August 2014, School B, P). The deputy principal of the same school added the following: *Schools are in the position to support learners to acquire the necessary knowledge, attitudes, beliefs and skills needed to make informed decisions and practice healthy eating habits* (I 1, 26 August 2014, School B, DP). Contributions such as these seemingly point to the participants' belief that schools could provide a suitable platform for enriched activities in certain subjects such as Life Skills that could promote health and well-being in the community.

The principal of School C elaborated on the idea of enriching the CAPS and mentioned the following examples: *I think it is definitely possible to integrate more aspects related to nutrition, healthy food choices, diseases and the structure of the body into the learning content of the Life Skills subject* (I-2, 26 August 2014, School C, P). The deputy principal of School B similarly proposed the following: *Learners can for example engage in extra activities related to health and Nutrition Education for personal and social wellbeing. These extra activities are additional to the curriculum and can form part of some kind of extra-curricular informative programme. As schools and teachers, we cannot only inform learners, but then also enrich or add on to the current curriculum we are following* (I-2, 26 August 2014, School B, DP). The principal

of School B suggested the following: *Health promotion can similarly be presented in the form of physical activities and games. In this way we as teachers will enrich the Life Skills curriculum* (I 1, 26 August 2014, School B, P).

Similarly, the principal of School C mentioned the following: *By means of curriculum-enriched activities, games and different workstations, we can potentially also improve our learners' sense of responsibility, their environmental attitudes and not only the curriculum-based knowledge* (I-2, 26 August 2014, School B, P). Against the background of these recommendations, it seems clear that the participants were of the view that an enriched curriculum could serve as platform to promote the health and well-being of learners and the community. Even though the participants referred to the Life Skills curriculum only during the initial data generation phase, the decision was made to enrich both the Life Skills, Natural Science and Technology curricula as part of the Win-LIFE intervention, based on the topics that the participants suggested to be included.

4.3.1.4   Category 2.1.4: Value of networks with governmental departments

In addition to the participants' view that parent involvement was important for the Win-LIFE intervention, they indicated that networks with governmental departments could strengthen any school's ability to support health promotion in the community. The deputy principal of School B, for example, stated the following:

> *I want to add that although schools can be used to introduce and share health-related information with learners, their parents and the surrounding community, collaboration between departments such as the Departments of Basic Education, Social Development and Health, can benefit not only the school and learners, but definitely also the surrounding community. These departments can assist to identify the diverse health-related challenges, as well as the necessary interventions to change it* (I-2, 26 August 2014, School B, DP).

Other participating school principals agreed and indicated the importance of collaboration between the community and local governmental departments, as captured in the following field notes: *If we work together with other government departments, we can make a difference in our community. By means of established networks, people will have better access to more information and services available and will be able to support themselves better. Through networking community members can be taught to support themselves more and how to make their own plans because they will have better knowledge* (FN, 26 August 2014). In support, the

principal of School A said: *If we want to develop an inclusive learning environment, it is fundamental for us to establish networks and good relationships with different governmental departments to set the scene for active involvement in the overall teaching and learning processes here at our school* (I-2, 26 August 2014, School A, P).

The participants seemingly agreed that networks with governmental departments could support learners' development, performance and behaviour. In this regard, the principal of School C remarked: *These networks with governmental departments can support better school achievement, better attendance and behaviour of learners at school* (I 2, 26 August 2014, School C, P) with the principal of School B adding the following: *Schools or education as an entity on its own cannot bring about substantial change in resource-constrained communities. Networks and collaboration between the different governmental departments will ensure that there are more and better opportunities to minimise the diverse challenges in our community and also then to get the maximum results* (I-2, 26 August 2016, School B, P).

It follows that the participants seemingly valued the potential role of external networks in health promotion interventions, such as governmental departments. Accordingly, the establishment of such networks was encouraged throughout the Win-LIFE project. In terms of this sub-theme (Encouraging health promotion through schools), the possibilities of schools fulfilling a role in health promotion interventions through enriched curricula were thus considered, with a strong focus on parent involvement during such interventions against the background and support of external networks.

4.3.2 Sub-theme 2.2: Strengthening nutrition-related education

Sub-theme 2.2 captures the results pertaining to the goal of strengthening nutrition-related education in the three participating primary schools through the Win-LIFE intervention. This sub-theme comprises the following four categories that could facilitate: positive behaviour change and healthier lifestyle choices (Category 2.2.1); value of multi-level and multi-component interventions (Category 2.2.2); involving parents and community members in homework activities (Category 2.2.3) and promotion of sustainable vegetable gardens in the community (Category 2.2.4). In identifying the categories for Sub-theme 2.2, I was guided by the inclusion and exclusion criteria that are summarised in Table 4.6.

Table 4.6: Inclusion and exclusion criteria of Sub-theme 2.2

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Sub-theme 2.2 Strengthening nutrition-related education	Data related to the strengthening of nutrition-related education through implementation of the Win-LIFE intervention	Data that indicates the importance of strengthening other areas of the curriculum during development of the Win-LIFE intervention
Category 2.2.1 Content that could facilitate positive behaviour change and healthier lifestyle choices	Data referring to the facilitation of positive behaviour change and healthier lifestyle choices through the Win-LIFE intervention	Data that refers to important aspects of the Win-LIFE intervention in terms of multi-level and multi-composition aspects, the involvement of parents and community members in homework activities, or guidance on vegetable gardens
Category 2.2.2 Value of multi-level and multi-component interventions	Data indicating the value of multi-level and multi-component interventions, and which levels and components could form part of the Win-LIFE intervention	Data related to important aspects of the Win-LIFE intervention in terms of positive behaviour change and healthier lifestyle choices, the involvement of parents and community members in homework activities, or guidance on vegetable gardens
Category 2.2.3 Involving parents and community members in homework activities	Data that relates to the importance and value of involving parents and community members in homework activities as part of the Win-LIFE intervention	Data that refers to important aspects of the Win-LIFE intervention in terms of multi-level and multi-composition aspects, positive behaviour change and healthier lifestyle choices, or guidance on vegetable gardens
Category 2.2.4 Promotion of sustainable vegetable gardens in the community	Data that refers to the promotion of school-based vegetable gardens through the Win-LIFE intervention	Data indicating important aspects of the Win-LIFE intervention in terms of multi-level and multi-composition aspects, positive behaviour change and healthier lifestyle choices, or the involvement of parents and community members in homework activities

4.3.2.1 Category 2.2.1: Content that could facilitate positive behavior change and healthier lifestyle choices

The teacher participants who attended the initial PRA-guided workshop agreed that nutrition-related education could provide learners with information on healthy eating

habits that may assist them to maintain a balanced diet. They said: *They need to learn about nutrition. Nutrition is very important,* as *well* as a *balanced diet, they must learn about it* (PRA-W, 11 February 2013, School A, TP 12). Other teacher participants shared this view and stated: *They must know what type of food is suitable for them to eat* (PRA-W, 7 April 2014, School B, TP 13). In further support, a participant from School C affirmed that learners could benefit from gaining knowledge on the nutritional value of different types of foods, suggesting the following: *Teach them about the different types of food groups* (PRA-W, 7 April 2014, School C, TP 8), whilst another participant was of the view that *They can learn about a balanced diet which is equal to the food pyramid* (PRA-W, 11 February 2013, School B, TP 12).

During member checking in September 2014 with the teacher participants, they confirmed this view and elaborated as follows: *A lot of the learners, parents and community members need more information on what is healthy eating? How do I eat healthy? What does healthy eating and a healthy diet entail? What is a balanced diet? We need to tell learners and their parents about food groups. We also need to tell them about the required intake for the different food groups and the importance of nutrition* (FN, 12 September 2013). Based on contributions such as these, it seems clear that the teacher participants wanted the learners (and their families) to acquire knowledge on a healthy lifestyle, a balanced diet, food groups and portion sizes as a result of the Win-LIFE intervention, with the aim of applying their newly gained knowledge in practice.

University researchers shared this view yet indicated a more specific focus on nutrition and school-based Nutrition Education. They referred to specific topics and the potential of becoming involved in facilitating change by saying: *Since school-based, health-related interventions are lacking in South Africa we have an ideal opportunity here to contribute to Nutrition Education* (FG, 14 November 2013, UR 5). University researchers suggested the following as a starting point for planning the Win-LIFE intervention, with the aim of strengthening Nutrition Education: *Start for example with the concept 'nutrition', support them to understand and learn more about what are nutrients and what are the basic functions of nutrients. Everyone needs to learn more about the importance of nutrition and the basic functions of nutrients* (FG, 14 November 2013, UR 3). Another participant added the following ideas as possible content for the intervention: *For school going learners we can*

include the basics of the food-based guidelines for healthy eating and the food pyramid. From some of the projects, that we have done in other parts of South Africa, we found that interventions based on a school's curriculum and equipping teachers with health and nutrition-related knowledge, will improve learners' health and nutrition-related behavior (FG, 14 November 2013, UR 2).

Researchers from the University of Pretoria confirmed the inclusion of the following specific topics that were suggested by the teacher participants: *Healthy eating habits, but in the form of the South African food-based healthy eating guidelines and the food pyramid, food storage and food safety are important themes I think we need to include* (FG, 14 November 2013, UR 8), as well as: *… we need to include themes on nutrition, nutrition education, nutrients, vitamins etc. We should also focus on food production* (FG, 14 November 2013, UR 1). When comparing the views of the teacher participants and the university researchers, it seems apparent that they shared similar views in terms of suitable content for the Win-LIFE intervention that could address the goal of positive behaviour change and healthier lifestyle choices among the learners and their families.

4.3.2.2   Category 2.2.2: Value of multi-level and multi-component interventions

According to the university researchers, multi-level and multi-component interventions for food and nutrition-based education could facilitate change in the lifestyle behaviour of community members residing in resource-constrained communities. One of the researchers compared such interventions to individual interventions, stating the following: *One very important factor is that this intervention has to be a multi-level, multi-component intervention and not an individual-level approach. Because we know that those types of interventions have been largely unsuccessful* (FG, 14 November 2013, UR 5). The same researcher proposed the following: *School-based health promotion interventions have to focus on the environment, policy levels, changes to individuals, families and the school community* (FG, 14 November 2013, UR 5).

In support, another researcher emphasised the value of multi-level and multi-component interventions. This researcher said the following:

I think it is important that the school-based intervention should be a multi-component intervention that targets the promotion of healthy lifestyles

through enriching what teachers and schools are already doing, that is educating learners, where they learn about the importance of good food choices and enhance their knowledge. Thus, by education and information sharing. I also think that environmental and policy change should form part of the components on the different levels of the planned intervention (FG, 14 November 2013, UR 3).

This plan of action to strengthen nutrition-related education through a multi-level and multi-component intervention was confirmed by another participant, who referred to possible role-players and content components of the intervention, stating the following:

So maybe it will be a good idea to go through what is already available and maybe focus on the different components that we can add on different levels to enhance what is already available in the curriculum. But then why don't we include the parents in the school intervention through homework activities, because then we actually do include the learners, parents and indirectly the wider community. The intervention also automatically will include the teachers and principal and we could discuss the involvement of the subject specialists from the GDE (FG, 14 November 2013, UR 4).

In addition, other university researchers provided examples that could form part of the multi-level and multi-component intervention, by suggesting the following:

When you work with grade 4-6, they just need the basic concepts, this is a healthy diet. There you can lead them through worksheets where you will for example start where the kids have to fill in let's say what they eat and as you take them through the worksheet, through the programme eventually they can see where their diet can be adjusted in their circumstances....this will take it to another level, whilst including different components. I suggest the building of a whole set of worksheets that the learners can work through with a focus on different components and different levels (FG, 14 November 2013, UR 5).

In sharing these ideas, the participants provided specific topics and suggestions for the content of the Win-LIFE intervention. These ideas were considered during the development phase of the intervention. When discussing the learners' workbooks, the participants suggested that these be visually stimulating and inviting to ensure optimal learner participation. A university researcher, for example, proposed the following:

There need to be lots of colorful pictures and quizzes or word searches about vegetables and healthy food need to be included in the workbooks, as well as posters. Everything needs to be visually appealing, because in that way learners will be excited to participate and learn and that will also increase Nutrition Education in a fun way. Again, this will add to the notion of different components on different levels (FG, 14 November 2013, UR 2).

Participants furthermore identified specific ideas for activities that could form part of the school-based intervention in an attempt to strengthen Nutrition Education on different levels by means of multiple components. One of the researchers said the following:

> *It would be useful to link food production, especially in the activity sheet, where children can identify what a healthy diet is. They can also identify where they may not have a healthy diet and then link that with an activity on food production. This might include something such as the growing of peas in the schoolyard or at home, so they can incorporate those vegetables into a more healthy diet. It will also help if pictures are used and if the focus is mainly on basic knowledge and skills, but by means of the inclusion of different components on different levels* (FG, 14 November 2013, UR 8).

As indicated previously, participants also suggested the involvement of both learners and their parents in the Win-LIFE intervention, in an attempt to strengthen Nutrition Education. They specifically referred to the option of information sessions on specific topics that could positively affect the eating habits of the learners, by saying the following: *One could also involve the whole school in terms of the parents of the learners attending the school. Having an information session for both parents and the learners on the type of food they give to the learners to take to school, the preservation of food and the school then can have education sessions for parents and grandparents, guardians* (FG, 14 November 2013, UR 1). In addition, topics on food safety and storage were highlighted as important to include in the Win-LIFE intervention. To this end, a participant recommended the following:

> *The principles of food safety and hygiene can be increased. The message ought to go out to the learners, parents and the community. If they are interested in learning more about 'sell by' and 'use by' dates, then a simple exercise is to have some packages with 'sell by' and 'use by' dates, and to sort it into products that can be kept for a long time and products that need to be refrigerated. In addition, the focus can also be on what will happen to food if it is not stored properly* (FG, 14 November 2013, UR 9).

As with the discussion of various other aspects addressed in this research project, the participants thus apparently prioritised the involvement of learners, their families and the community when wanting to promote health and well-being through a school-based intervention. Furthermore, the participants shared several specific ideas for content and practical exercises that could be included in the Win-LIFE intervention. All these ideas informed the development of the intervention.

4.3.2.3 Category 2.2.3: Involving parents and community members in homework activities

As already mentioned in previous sections, the participants held the view that parents, caregivers and community members would play a fundamental role in shaping learners' attitudes and behaviour, including those regarding homework. Some of the university researchers shared the view that learners would be more likely to complete homework activities if encouraged to do so by their parents, saying that: *Parental support will influence learners' active participation and involvement with homework activities* (FG, 14 November 2013, UR 7). The same researcher suggested that schools could provide parents with information and skills on various ways in which they could support their children when doing their homework. This researcher specified the following: *Parents also need to know what they can do to support their children with the completion of their homework. They need skills and practical ideas on support in terms of homework* (FG, 14 November 2013, UR 7).

As has been alluded to in earlier sections, the participants seemingly believed that parents and community members would benefit by being involved in homework activities as part of the Win-LIFE intervention. A researcher said the following in this regard: *Parents and caregivers may benefit by gaining knowledge about healthy eating practices, they might even learn important new information and skills by participating in homework activities. Through supporting learners with homework activities, these parents might even learn how to help promote nutritional behaviour amongst their neighbors and other community members* (FG, 14 November 2013, UR 4). In support, another university researcher stated the following: *By means of homework involvement by parents, these parents can develop their own capacity and equip themselves with the necessary knowledge and skills on nutrition, food, hygiene, healthy diets and a healthier lifestyle* (FG, 14 November 2013, UR 3).

According to the participants, such involvement could culminate in learners, their families and the broader community being better informed about healthy eating and lifestyle habits, with the implied possibility of their applying this in their lives and making the necessary changes towards positive development as a result of the Win-LIFE intervention. The following contribution by one of the researchers summarises this view:

> *With more involvement in terms of homework, not only will parents have the*

opportunity to influence the eating habits, food habits of their children and learn about Nutrition Education, but will also be in a position to share their knowledge with other community members. This will a/so serve as some kind of capacity building for parents and community members (FG, 14 November 2013, UR 7).

4.3.2.4 Category 2.2.4: Promotion of sustainable vegetable gardens in the community

Another goal that was highlighted by the participants as important to address in the Win-LIFE intervention concerns the promotion of vegetable gardens in the community – whether school-based or home-based. Most of the teacher participants, as well as the participating school principals and deputy principals agreed that sustainable school-based vegetable gardens, together with the promotion of healthy eating habits, were important in the community. The principal of School B summarised this view in the following manner: *Our community must learn more about vegetable gardens. Because of all the poverty around us, it will benefit them. Here at school we can teach their children about vegetable gardens ... how to start your own one at home...and in addition, the teachers assist the children to learn them about healthy food* (I-1, 26 August 2014, School B, P).

One of the deputy principals elaborated on this idea and highlighted the value of parents being empowered. She said the following: *Here at our school we have a lot of knowledge about vegetable gardens. We can learn parents also about it, not only the learners. Because you know Karien, our parents are very poor. There is always a need for fresh food. And by learning the parents about vegetable gardens − the value of that − at the same time we can learn them about healthier food choices* (I-1, 26 August 2014, School B, DP). Teacher participants from School C seemingly agreed and stated the following: *We think that parents need to learn more about how to start their own vegetable gardens at home. There is always a need for food, especially amongst the poorest of the poor in our community. If they learn about vegetable gardens, they can a/so learn about healthy food* (FN, 7 April 2014). As evident from these contributions, the participants seemingly focused on the broad goal of food provision and positive behaviour change within a context of poverty, and not merely on the empowerment of selected individuals.

University researchers concurred that more could be invested in the future generation to reduce malnutrition and hunger through sustainable school- and home-based

vegetable gardens. In this regard a researcher mentioned the following:

> *My question is should we not start investing time, energy and enthusiasm in getting the school gardens up and running again? We all know that schools play an important role in learners' health and nutrition, since schools and teachers have a great influence on the learners' attitudes and behaviour. Schools can furthermore also involve the parents and in that way reduce the number of people suffering from malnutrition and hunger in that community* (FG, 14 November 2014, UR 8).

Another university researcher added: *I agree, if we combine our knowledge and expertise with the teachers' knowledge and expertise, the learners of all three schools can benefit from learning about how to create sustainable vegetable gardens. It will indeed impact on the hunger as well as the household food security in the community* (FG, 14 November 2014, UR 4). By involving the various groups of participants in participatory discussions that focused on the collaborative development of the Win-LIFE intervention, the expertise of the various role-players could inform the content of the intervention.

For the participants it was important for learners to acquire both knowledge and skills to be able to apply what they had learnt. To this end, participating teachers from School B suggested the combination of Nutrition Education interventions and school-based vegetable gardens to counteract and cope with malnutrition and hunger. They suggested the following: *You know, I think our children should not only participate in programmes to help them to learn about health food and nutrition. It is important to learn from books, but they should also learn on a practical level. They should learn how to plant those healthy vegetables they learnt about in school or if they participate in this programme* (FN, 7 April 2014). Another teacher from School B added: *If our learners learn about nutrition and healthy food, vegetable gardens, and how to apply all the knowledge in their daily lives, we might be able to make a difference in terms of the levels of hunger and food insecurity in some households* (FN, 7 April 2014).

On a practical level, the teacher participants pointed out that if learners were to consume vegetables at school and at home from an early age, their food choices could improve. Teacher participants mentioned the following in this regard: *If our learners eat vegetables from an early stage, at school and at home, their chances of choosing vegetables when they are grownups are better. It is our responsibility as teachers to tell this to the learners and especially to their parents* (FN, 7 April 2014). Other teacher participants seemingly agreed and noted the following: *Our learners*

must learn earlier about healthy food and together with that also start eating vegetables at an early age and not just pap, because pap doesn't have as much vitamins as vegetables. As adults these learners might just choose healthier food such as vegetables on a daily basis (FN, 7 April 2014), and *In addition, learners' knowledge and their way of thinking about eating vegetables might increase if they start eating it earlier at home and at school* (FN, 7 April 2014).

In addition to the possibility of vegetable gardens promoting learners' eating habits, the participants shared the view that learners could in turn transfer some of the knowledge they had gained to their families and other community members if they were to be exposed to school-based vegetable gardens. Keeping this in mind, university researchers suggested the following in terms of potential support for both learners and their families, covering various topics that relate to healthy food- and nutrition-related behaviour:

> *But then we need to include information and examples for both learners and parents about other vegetables.... information about the vitamins in certain vegetables, how to produce your own vegetables. We need to start at the beginning, for example, what are the requirements to start your own vegetable garden, what do you need, how to plant seeds, different parts of plants. In this way you don't only include information about healthy food only, but also how you can become a self-sustainable food producer.......even if it is just for your own family. We need to include a wide range of information so that learners and parents can benefit from it. Learners can even teach their illiterate parents* (FG, 14 November 2013, UR 5).

University researchers confirmed that both home- and school-based vegetable gardens could support community development, and could encourage collaboration and interaction amongst community members. They pointed out that: *School-based vegetable gardens have the possibility to bring community members together, as it can provide a platform to share skills with one another* (FG, 7 April 2014, UR 2), and *Through vegetable gardens, whether it is at school or at home, preferably it must be at both, communities can collaborate and interact with each other, learn from each other and support each other. I completely agree vegetable gardens can bring communities together* (FG, 14 November 2013, UR 6).

Some of the participating teachers as well as university researchers were of the view that home- and school-based vegetable garden initiatives could motivate parents and

community members without vegetable gardens to start such gardens. One of the teachers suggested the following: *We can create greater awareness of our vegetable garden here at school by increasing the size of it and to show parents how valuable it is to us as school. If we use it to feed learners, to teach them how to start their own vegetable gardens, their parents might feel motivated to help the learners to start a vegetable garden at home* (FN, 7 April 2014). A university researcher added the following: *If parents and learners experience the value of a school-based vegetable garden, they might want to start their own at home and use that produce as part of their daily meals* (FG, 7 April 2014, UR 3).

When discussing the content of the Win-LIFE intervention in terms of knowledge on vegetable gardens, the participants shared the idea that some of the content could fit into the Natural Sciences and Technology curriculum. In this regard, teachers indicated that learners could, for example, learn about the processes of nature, and acquire core science concepts during real-life experiences, outside the classroom. One of the teacher participants explained this idea as follows: *Maybe food production can be combined with something like natural sciences where learners start learning about the different plant parts. I don't know the grade 4-6 Natural Sciences curriculum, but I am certain there are many things that can be included in order to prepare or learn learners about vegetable gardens* (FG, 7April 2014, School B, TP 5). Another teacher participant mentioned additional examples and said the following:

> *I think we should take the needs that align with what is already in the curriculum like for example the crop rotation and see what developmentally appropriate information on crop rotation can be transferred. The earlier they learn about things like crop rotation, the earlier they can start thinking about their own vegetable gardens and the earlier they can understand Natural Science better. We need to ask ourselves what do we want to achieve with this. We want to support schools to support learners, parents and ultimately the community. Isn't that the purpose of this intervention? To support schools to become better centers of learning, care and support and that it should be places of health promotion?* (FG, 7 April 2014, School B, TP 3).

University researchers agreed about the idea of an enriched curriculum and mentioned some practical activities that learners could benefit from. They for example referred to the following:

> *The Grade 4-6 curriculum. It will be great if the teachers can practically show the learners this is sand, this clay, this is another type of soil ... .this is an example of basic knowledge learners will need if they want to become for example vegetable farmers. A lot of the time the teachers don't have the*

knowledge as well because there is basic things with soil types to wet it and bend it and try to make a sausage could give you a good idea about the clay content of the soil and that stuff would actually be playful for the kids to do. These are important examples we need to include. Learners will never forget this if you show them this Composting and that kind of thing. I think there are some things that kids would like to do. Crop rotation is something like if they have a school garden you could practically show them what it is, the benefits and that kind of thing. I think there are some of the others, there is quite a lot you can include (FG, 7 April 2014, UR 1).

In support of these ideas, another researcher suggested a supportive resource as part of the Win-LIFE intervention, where activities could built on one another. The following excerpt propagates this idea:

You know what you could do in the schools as part of the school-based vegetable gardens and the intervention...you could develop a kit and that could be part of your intervention and you specifically provide it to the school. You can for example say to them this part of the curriculum.... it's that part of the kit. And you have integration between grade 4, 5 and 6 where you have for example the school garden and the grade 4s will have a look at the garden to sec which plants they should grow, you have a little bit of fertilizer that they can use to feed the garden. The grade 7's you have the lifecycle of the beans and the peas and the insects that feed on the plants. But you have very specific things that you include in the kit linking it to very specific topics over the three so it forms a project for the teacher and part of the school-based vegetable garden in order to support Nutrition Education (FG, 7 April 2014, UR 10).

4.3.3 Sub-theme 2.3: Making a contribution to learning

Sub-theme 2.3 embodies the envisioned contribution of the Win-LIFE intervention to the learning of the learners involved. This sub-theme comprises two categories pertaining to the value of following an experiential and practical learning approach (Category 2.3.1) and the value of group work and cooperative learning (Category 2.3.2). Table 4.7 captures the inclusion and exclusion criteria I relied on in identifying the categories for Sub-theme 2.3.

Table 4.7: Inclusion and exclusion criteria for Sub-theme 2.3

	INCLUSION CRITERIA	**EXCLUSION CRITERIA**
Sub-theme 2.3 Making a contribution to learning	Data related to the potential contribution of the Win-LIFE intervention to learning	Data referring to the potential contribution of the Win-LIFE intervention to areas other than the learning experiences of learners

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Category 2.3.1 Value of following an experiential and practical learning approach	Data referring to the value of following an experiential and practical learning approach during implementation of the Win-LIFE intervention	Data that indicates the value of group work and cooperative learning as possible components of the Win-LIFE intervention
Category 3.2.2 Value of group work and cooperative learning	Data that refers to the value of group work and cooperative learning as potential component of the Win-LIFE intervention	Data that relates to the value of an experiential and practical learning approach as possible component of the Win-LIFE intervention

4.3.3.1   Category 2.3.1: Value of following an experiential and practical learning approach

Participants suggested that experiential learning could form the foundation of the Win-LIFE intervention, allowing learners to discover their own understanding when actively experiencing the content by directly engaging in the learning process and working with real-life activities. Participants accentuated the value of concrete experiences and mentioned the following: *Learners must acquire knowledge from the teachers in a practical manner in the classroom and they must be able to communicate the knowledge to their parents and other community members who are not knowledgeable about the things we teach them* (PRA-W, 7 April 2014, School C, TP 10).

According to the teacher participants, both the learners and the community could benefit from the inclusion of practical skills in an enriched curriculum, offered as part of the Win-LIFE intervention. One of the teachers stated the following in this regard: *By means of practical activities learners will be for example able to develop entrepreneurship skills and they will be able to spread these skills to the whole community if they learn practically* (PRA-W, 7 April 2014, School C, TP 9). Another teacher participant added the following: *If learners learn skills through practical activities they will be able to make better choices, and they will assist others in the community* (PRA-W, 7 April 2014, School C, TP 5). Contributions such as these highlight the apparent value that the participants placed on practical experience that could be possible when following an experiential and practical learning approach during implementation of the Win-LIFE intervention.

In terms of the practical application of some of the activities, participants shared the

view that healthier food-related habits could, for example, be promoted when teaching learners to read and interpret menus, recipes and food labels. According to the teachers, this could benefit both learners and their parents, as captured in the following contribution: *I think if the learners are able to read nutritional guidelines and expiry dates, food preparation, in the form of recipes, will benefit not only the learners, but also their families. Learners can show the rest of their family members how to understand nutritional guidelines, how to look for expiry dates and how to follow and cook from a recipe* (PRA-W, 7 April 2014, School B, TP 3).

In addition to the possible benefits of learning and positive behaviour change, the participants mentioned that learners could benefit from learning how to communicate in a practical manner. According to the participants, this could in turn promote the learners' ability to share newly gained knowledge with others, as captured in the following quotation: *Indirectly, learners must be able to have good communication skills in order to communicate the knowledge to others* (PRA-W, 7 April 2014, School C, TP 4). Teacher participants furthermore indicated that learners could gain practical experience that could support them in, for example, the subject areas of Arts and Culture, when they acquired knowledge on topics such as indigenous food and cultural food practices. The teacher participants gave the following examples: *Learners will benefit from learning about traditional food such as morogo, mxushu and many others and also how to make dumplings* (PRA-W, 7 April 2014, School A, TP 11).

With regard to other school subjects, the teacher participants were of the view that practical activities could enhance learners' understanding of Economic and Management Sciences. To this end, participants suggested that business skills associated with food production and entrepreneurial skills could for example form part of the enriched curriculum. They said: *As part of the intervention, learners could focus on the four different sectors of production, natural resources, capital and entrepreneurship. Practical, hands-on activities can be developed to teach learners about the four sectors and also how to apply it in a practical manner* (PRA-W, 7 April 2014, School A, TP 11).

The teacher participants mentioned that learners could, for example, subsequently learn how to grow and sell their own vegetables, together with acquiring associated

skills to save money. The teacher participants captured these ideas for practical learning in the following way: *I think it will be valuable if the learners can learn how to sell their products. Maybe these learners can try to plant and grow their own vegetables and they might get plenty of vegetables that they will be able to sell them* (PRA-W, 7 April 2014, School C, TP 6), and *I think that learners must even learn about saving money through practical activities. If our learners know how to save money, they might be able to buy and produce food for their families* (PRA-W, 7 April 2014, School B, TP 13).

For facilitation of experiential learning, the teacher participants recommended the inclusion of creative activities. They referred to examples such as the following: *Learners must be able to identify the different colours that must be included as part of a healthy meal* (PRA-W, 7 April 2014, School C, TP 9), and *Learners can also be taught how to use creativity when they are making food beddings either at home or here at school* (PRA-W, 7 April 2014, School 8, TP 12). In this manner, the participants suggested a format for the Win-LIFE intervention that would allow for not only knowledge acquisition, but ultimately for the application of new knowledge by learners and the broader community. For the participants, this could enhance learners' learning experiences in class and equip them with skills that could be applied in life and support them in also understanding some of the content taught in other subject areas.

4.3.3.2   Category 2.3.2: Value of group work and cooperative learning

In addition to encouraging the use of an experiential learning approach for the Win-LIFE intervention, the teacher participants underscored the value of group work, indicating the view that cooperative learning activities could form part of the Win-LIFE intervention. Teacher participants highlighted the value of interaction among learners during group work in the following way: *Children can learn from and also help each other. I think learners might learn more when they participate in group activities* (PRA-W, 7 April 2014, School B, TP 2).

Several other participants shared this view, highlighting the value of group work as follows:

- ❖ *What I suggest* is *that the learners don't work alone* as *part of the intervention. Group-based learning and work will be wonderful for the learners. We don't*

always have time to incorporate group work in our daily activities (PRA-W, 7 April 2014, School C, TP 3)

❖ *Instead of us standing in front of the class and talking and teaching all the time, I think group work must be included in this intervention. It will give learners the chance to help each other and also to learn from other learners as well* (PRA-W, 7 April 2014, School A, TP 4).

From these contributions it can be deduced that the teacher participants valued group work and cooperative learning activities, yet could often not include these in their daily teaching due to time constraints. They suggested that the Win-LIFE intervention include such activities to enrich the learning experiences of the learners. In addition, the teacher participants pointed out that group work implied the benefit of a positive classroom environment where learners could learn through playful activities or games. In this regard, one of the teacher participants indicated the following: *I think that learners will enjoy games as part of this intervention. Learners like games and if you combine the learning activities with games, learners will learn in a fun manner without actually realizing that they are learning about healthy eating or whatever is going to be included in this intervention* (PRA-W, 7 April 2014, School C, TP 1).

In addition to the potential benefits of enriched learning experiences and positive classroom environments, the teacher participants added that group work could positively impact the learners' social skills, and positively impact on their feelings of belonging. A teacher participant explained this view as follows: *Learners will be happy to help each other. It might let some of them feel as if they belong. I think the social interaction during group activities will assist with this feeling of belonging* (PRA-W, 7 April 2014, School A, TP 5). In support, another participant pointed out that: *The group work will help learners who are usually shy to interact with other learners on a social level. It might even assist some of them with their communication skills. Learners who struggle with their English might communicate even less … I think learners might enjoy it if it is used appropriately as part of this intervention* (PRA-W, 7 April 2014, School A, TP 1).

In developing the Win-LIFE intervention, we aimed to address these recommendations and include group work and collaborative learning in the activities of the intervention. We realised that the teacher participants shared these ideas

based on their experiences as teachers and that these would probably benefit the Win-LIFE intervention.

4.4   THEME 3: IMPLEMENTATION OF THE WIN-LIFE INTERVENTION

In Theme 3 I report on the teachers' implementation of the Win-LIFE intervention and their experiences of the implementation process. To this end, I rely on the data generated with the teacher participants (n=13) of the three participating schools (four each from Schools A and B and five from School C) during the third phase of the broader research project. I structure my discussion in terms of the three identified sub-themes, relating to the general implementation process that participating teachers followed (Sub-theme 3.1); the support experienced by teachers during implementation of the Win-LIFE intervention (Sub-theme 3.2) and the challenges experienced and suggestions made by the teachers for future implementation of the Win-LIFE intervention (Sub-theme 3.3). As background to my discussion, Photographs 4.7, 4.8 and 4.9 provide examples of the teachers' implementation of the Win-LIFE intervention.

Photograph 4.7: Implementation of the Win-LIFE intervention at School A (September 2014)
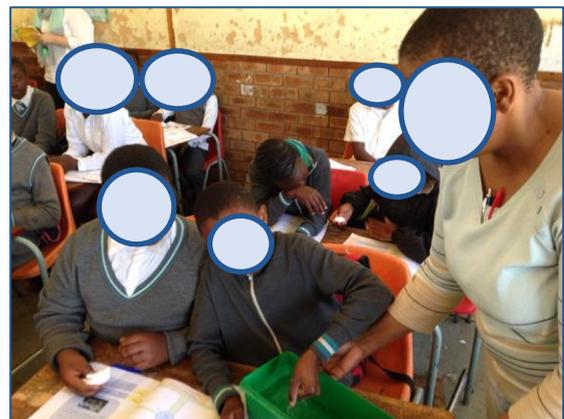
Photograph 4.8: Implementation of the Win-LIFE intervention at School B (August 2014)

Photograph 4.9: Implementation of the Win-LIFE intervention at School C (September 2014)

4.4.1 Sub-theme 3.1: General implementation process followed by the participating teachers

Sub-theme 3.1 focuses on the initial implementation process of the Win-LIFE intervention as executed by the participating teachers. This sub-theme comprises the following two categories: Perceived levels of implementation of the Win-LIFE intervention by teachers (Category 3.1.1) and different implementation procedures followed (Category 3.1.2). In identifying these categories, I was guided by the inclusion and exclusion criteria that are captured in Table 4.8.

Table 4.8: Inclusion and exclusion criteria for Sub-theme 3.1

	INCLUSION CRITERIA	**EXCLUSION CRITERIA**
Sub-theme 3.1 General implementation processes followed by the participating teachers	Data that indicates how and to what extent the Win-LIFE intervention was implemented by the participating teachers	Data referring to the developmental process or re-implementation of the Win-LIFE intervention by researchers during the final phase of the broader project
Category 3.1.1 Perceived levels of implementation of the Win-LIFE intervention by teachers	Data referring to teachers' actual level of implementation of the Win-LIFE intervention	Data referring to the different ways in which the teachers implemented the Win-LIFE intervention
Category 3.1.2 Different implementation procedures followed	Data referring to the different ways of implementation of the Win-LIFE intervention that the teachers followed	Data that relates to the levels of implementation of the Win-LIFE intervention by the participating teachers

4.4.1.1 Category 3.1.1: Perceived levels of implementation of the Win-LIFE intervention by teachers

During the implementation phase of the Win-LIFE intervention, which was done by teachers in the three participating schools, I regularly visited the schools and observed the implementation that took place. I wrote the following in my reflective journal based on my observations, prior to meeting with the teacher participants on 7 April 2014, when we reflected on the process:

I am curious about tomorrow's session with the teacher participants of the three primary schools. Throughout the observation sessions myself and Kaitlyn (field worker) had at the three schools on 4 September 2014 (3 sessions at all 3 schools), 10 September 2014 (3 sessions at School A, 2 sessions at School B), 11 September 2014 (2 sessions at School B, 3 sessions at School C), 1 October 2014 (4 sessions at School B, 2 sessions at School C) and 2 October (4 sessions at School A, 2 sessions at School C) we observed that the majority of the teacher participants (n=13) did not implement the intervention as negotiated with them during their training. In

none of the schools teachers made use of the posters we provided with the learner workbooks and teacher guides. Only some of the teachers at School B implemented the intervention from what we could see from the learners' workbooks. During our observations teachers clearly indicated that they had difficulty implementing the intervention and it seems as if some of the teachers presented only the lessons included in the Win-LIFE intervention on the days we did the observation sessions. Although they seemed to be positive about the intervention in principle, they seemed to view this intervention as an additional responsibility. It will be interesting to speak to the teachers one year after they were requested to implement the Win-LIFE intervention (RJ, 7 April 2014).

According to the teacher participants, most of them implemented the Win-LIFE intervention in their classrooms between August and October 2014. When asked to report on their implementation of the intervention the teachers said: *I did implement the Win-LIFE programme in my class* (FG, 7 April 2014, School C, TP 1), *The person who took over from me...she was using the Win-LIFE Programme books and did implement it* (FG, 7 April 2014, School A, TP 11) and *I tried to fit Win-LIFE as part of the current curriculum* (FG, 7 April 2014, School C, TP 13). Another teacher participant echoed this report by stating that: *I often implemented the Win-LIFE programme in my class with the Grade 5 learners* (FN, 7 April 2014). As such, many of the teacher participants were seemingly of the view that they had implemented the Win-LIFE intervention at their schools, even though these perceptions were not completely confirmed by my observations of the implementation at various schools.

One male teacher participant indicated that he did not implement the Win-LIFE intervention from the beginning until the end, but explained that he incorporated some of the themes where these correlated with the content he was focusing on as part of CAPS. He said: *I did not implement the Win-LIFE Programme always in my class* (FG, 7 April 2014, School B, TP 10) but added *There were instances where it just came in and I used it where topics or themes we were doing was applicable to the intervention. So in a sense I did some parts of it, but not from the beginning until the end. Some parts go hand in hand with life and living I am doing, so I incorporated those parts* (FN, 7 April 2014). Another teacher participant shared a similar experience saying the following: *We did implement, but not much, as this was something extra we had to do. The Programme is a good Programme, but the expectations from the University was not realistic in terms of the implementation of this Programme* (FN, 7 April 2014). According to this participant, the Win-LIFE intervention was thus perceived as an additional task to complete, rather than

supportive activities that could enrich the existing school curriculum. In addition, the participant did not experience the expectations for implementation as realistic, as reflected in her contribution.

Upon further investigation, it seemed apparent that only a small section of the Win-LIFE intervention's content was covered by the teachers between August and October 2014. The participants were able to identify several reasons for the varying levels of commitment, as captured in the following excerpts: *We did implement the Programme, but not much was done, as the timing was limited and it had a lot of other work* (FG, 7 April 2014, School A, TP 60), and *Not much of the Programme was implemented in my classes, as we were told that we need to finish the curriculum first and the programme was something extra. We were also told that this Programme from the University is interfering with our daily teaching responsibilities* (FN, 7 April 2014).

In seeking clarity about the latter statement during an informal conversation, one of the teacher participants from School A explained as follows: *Teachers were told that since we are done with life and living in term 1, we are going to confuse the learners by repeating the work in your programme that we already did in term 1* (FN, 12 September 2014). The deputy principal of School A confirmed that the Grade 4 to 6 Life Skills, Natural Sciences and Technology teachers had indeed already dealt with the work that was integrated in the Win-LIFE intervention in the first quarter of the year, yet that they were then expected to include it as part of the Win-LIFE intervention in the third quarter of the year. She said: *Teachers don't want to do the same work again. They already did the work included in the University's programme and they have too much other work to do. Teachers don't want to repeat anything they already did during the first semester. This is also something extra and not part of the curriculum* (FN, 12 September 2014). From these contributions, it seemed clear that the timing, alignment of content with the CAPS and an already full workload may have affected the teachers' implementation of the Win-LIFE intervention.

Teacher participants from both Schools B and C seemingly disagreed with the participants from School A and indicated that a large part of the Win-LIFE intervention was covered by them. Nearly every teacher participant from School B appeared to agree that: *Most of the work has been done* (FG, 7 April 2014, School B, TP 3) whilst

a teacher participant from School C added that: *Learners did complete Environmental and Nutrition Workbook very well* (FG, 7 April 2014, School C, TP 12). In elaborating on their experiences, the teacher participants from Schools B and C said the following: *I used most of the lessons on a Friday when I saw the Grade 4's for Life Skills* (FN, 7 April 2014), and *With the Grade 5's I did most of the Programme* (FN, 7 April 2014). In addition to their reporting on their levels of commitment in implementing the Win-LIFE intervention, a teacher participant from School B indicated that she encouraged leaners to focus on the intervention at home, while being supported by their parents or guardians. She said: *I was giving the learners some of the work to be done at home with the help of their parents or guardians* (FG, 7 April 2014, School B, TP 3).

Based on the various contributions of the participants it seems as if School A displayed insight into the fact that they did not implement the Win-LIFE intervention as planned. They mentioned reasons such as time restrictions, interference with classroom responsibilities, added workload, pressure to focus on the CAPS, and non-alignment of the Win-LIFE intervention with the CAPS in terms of timelines during the year. However, participants from Schools B and C were seemingly of the view that they had successfully implemented the Win-LIFE intervention in class, even though this perception was not confirmed by my observations, as captured in my field notes and reflective journal.

4.4.1.2 Category 3.1.2: Different implementation procedures followed

According to the teacher participants, they implemented the Win-LIFE intervention in various ways. A teacher from School A indicated that she implemented the intervention twice a week and provided the following clarification: *During the Life Skills period, 2 days per week* (FG, 7 April 2014, School A, TP 8) whilst the other participants from that particular school were not specific and seemed vague in their responses. One teacher participant simply pointed out that: *I did implement the Programme and used it for a short period of time* (FG, 7 April 2014, School A, TP 12).

Teacher participants from School B were apparently of the opinion that they had implemented more of the intervention than School A. They stated the following: *The Programme was implemented three times a week* (FG, 7 April 2014, School B, TP 2). In addition, a participant from the same school reportedly implemented the Win-LIFE

intervention with her Grade 7 learners, even though the intervention was developed and targeted for learners from Grade 4 to 6. This teacher participant explained her experiences in the following way: *During the teaching of biodiversity with the Grade 7's, I asked the Grade 6 educators to lend me workbooks about Win-LIFE to practically integrate it into my lesson. At least it was done once per week* (FN, 7 April 2014).

Teacher participants from School C reported that they had implemented the Win-LIFE intervention once a week and said: *I have three periods of Life Skills per week so I used one period for Win-LIFE, so I did it once a week for two months* (FG, 7 April 2014, School C, TP 13). One participant from School C, however, indicated that she had implemented the Win-LIFE intervention on a more regular basis saying that: *I was implementing this programme during the Life Skills periods. It was almost every day* (FG, 7 April 2014, School C, TP 4).

In terms of the expected frequency of implementation, I noted the following in my reflective journal on the day that we trained the teachers and delivered the learning material to the schools*: I hope that the teachers will implement the intervention as negotiated with them today. Hopefully they will implement both parts of the intervention according to the schedule, where we requested teachers to implement both the Nutrition Education and Environmental Education sections once a week during the Life Skills and Natural Science periods over the next 9 weeks* (RJ, 4 August 2014). When comparing my notes to the participants' reports, it is clear that the actual implementation of the intervention was not done as proposed and involved less frequent sessions in most of the cases. It furthermore seems apparent that the implementation did not follow frequent sessions as originally intended.

In support of these deductions, I made the following notes during some of the observation sessions at the three participating schools between September and October 2014: *Mrs A explains that some learners are behind with the lessons and that the intervention is interfering with her Programme in class. Only selected lessons were done. For example, in the Grade 4 Nutrition Education learners books lessons 1, 4a, 4b, 7c and & 7d were done* (FN, 12 September 2014), *Mrs C seems uncertain where they need to start in the workbook. They start on p.33. Some of the learners did all the lessons and others only did some of the lessons* (FN, 12 September 2014),

and *The student teacher started with lesson 13. Only some of the lessons are done. Some books are empty. It seems as if they started with the implementation of the Environmental Education workbooks only yesterday. Some of the learners are busy with homework of the previous lessons while the teacher is busy presenting the lesson. This teacher did not make use of the manual for teachers or the posters* (FN, 12 September 2014). It follows that the intended sequence of content was apparently not followed by the teachers who implemented the Win-LIFE intervention, even though the various lessons were developed to build on one another in a logical way.

4.4.2 Sub-theme 3.2: Support experienced by teachers during implementation of the Win-LIFE intervention

Sub-theme 3.2 focuses on the support experienced by the teacher participants during implementation of the Win-LIFE intervention. The categories that apply to this sub-theme relate to the support experienced from school principals (Category 3.2.1); other teachers (Category 3.2.2) and researchers of the University of Pretoria (Category 3.2.3). In identifying the categories for Sub-theme 3.2, I was guided by the criteria captured in Table 4.9.

Table 4.9: Inclusion and exclusion criteria for Sub-theme 3.2

	INCLUSION CRITERIA	**EXCLUSION CRITERIA**
Sub-theme 3.2 Support experienced by teachers during implementation of the Win-LIFE intervention	Data referring to the support experienced by teachers during implementation of the Win-LIFE intervention from various groups of people	Data that relates to the support experienced by teachers during the development of the Win-LIFE intervention
Category 3.2.1 Support by school principals	Data that relates to support received from school principals during implementation of the Win-LIFE intervention	Data that indicates support received from other teachers or university researchers during implementation of the Win-LIFE intervention
Category 3.2.2 Support by other teachers	Data referring to the support received from fellow teachers during implementation of the Win-LIFE intervention	Data indicating the support received from school principals or university researchers during implementation of the Win-LIFE intervention
Category 3.2.3 Support by researchers of the University of Pretoria	Data related to the support received from researchers of the University of Pretoria during implementation of the Win-LIFE intervention	Data referring to the support received from other teachers and school principals during implementation of the Win-LIFE intervention

4.4.2.1 Category 3.2.1: Support by school principals

Teacher participants from the three participating schools apparently received different levels of support from the principals and/or deputy principals of their schools during the implementation of the Win-LIFE intervention. Some of the participants seemed positive about the extent of support they received, whilst other teacher participants were of the view that they were not supported by their principals during implementation of the intervention.

When reflecting on this aspect, four of the five teacher participants from School A indicated that they experienced support from the principal and/or deputy principal. The participants from School A who felt that they had been supported by the principal and/or deputy principal indicated that the Win-LIFE implementation process was monitored by their principal on a regular basis. Active engagement and support by the principal and deputy principal is implied in the following contributions:

❖ *The principal supported me from the start of the programme. He was monitoring the implementation of the programme* (FG, 7 April 2014, School A, TP 7)

❖ *Principal and deputy were so great. They were doing follow-ups to check how far we are* (FG, 7 April 2014, School A, TP 12)

❖ *At our school the principal and deputy did support the programme, because they used to come and check the work of the learners on a regular basis* (FN, 7 April 2014)

❖ *They monitored the use of the programme and did motivate us to implement the programme* (FN, 7 April 2014).

However, one teacher participant from School A felt that the principal did not support her implementation of the Win-LIFE intervention. This teacher justified het point of view as follows: *She didn't support us* (FG, 7 April 2014, School A, TP 8) and later added the following during an informal conversation: *I think I am the only teacher from X Primary (School A) who spoke the truth today. The truth is that the deputy principal told us not to implement the intervention, because he said we will only confuse the learners and we will not finish in time with our own work and then the district and department will be unhappy with our school* (FN, 7 April 2014). This report confirms the discussion in Section 4.4.1.1 (Category 3.1.1), where a few participants from

School A (including the deputy principal) indicated that they were not encouraged to implement the Win-LIFE intervention due to the reasons discussed in that section.

In School B only two of the four teacher participants seemingly felt supported by their principal and believed that they were encouraged to implement the Win-LIFE intervention. These participants explained their as follows: *The principal encouraged us to implement the programme. The HOD of Natural Sciences and Technology was the one who were the most inspirational* (FG, 7 April 2014, School B, TP 10), and *Management was also interested in the programme and gave educators moral support* (FG, 7 April 2014, School B, TP 2). In support of this experience, I noted the following: *The teachers from School B felt especially supported by Mrs X, the HOD of Natural Sciences and Technology. She motivated the teachers to implement the intervention and monitored the implementation on a weekly basis* (FN, 7 April 2014). As indicated, the other two teacher participants from School B disagreed with their colleagues and said the following: *Most of the time we were not supported, you just have to work hard* (FG, 7 April 2014, School B, TP 3), and *No, we were not supported by the principal* (FG, 7 April 2014, School B, TP 9).

At School C, three of the four teacher participants indicated that they had been supported by their principal during implementation of the Win-LIFE intervention. The teacher participants from the school who experienced positive support from their principal explained this as follows: *The principal was supportive* (FG, 7 April 2014, School C, TP 4), and *We were supported by the principal and she encouraged us to use the booklets given to us and to fit the programme in our time-slots* (FG, 7 April 2014, School C, TP 5). In addition to the support experienced from the principal, another female participant from School C indicated that the whole school management team had supported the teachers during implementation of the Win-LIFE intervention. She said: *The school management team was very supportive during the implementation of the programme, because sometimes they would come and check the implementation of the programme and the books of the learners* (FN, 7 April 2014). One participant from School C, however, did not experience the support mentioned by the other participants: *There was no support from the school principal. We were doing these on our own* (FG, 7 April 2014, School C, TP 1), and later adding: *The principal never spoke to us about the programme, just the deputy principal asked how far we are with the implementation before some of the visits* (FN, 7 April 2014).

Based on the various and even contradicting reports by the participants at the respective schools, it is difficult to deduce the general experiences of the participants in terms of the support they experienced from their relevant principals. Even though the most of the participants from Schools B and C had seemingly experienced their principals as supportive, the positive responses from the participants from School A may not be a true reflection of their experiences, when read against the background of Section 4.4.1.1.

4.4.2.2   Category 3.2.2: Support by other teachers

Teacher participants from all three schools seemed to agree about the extent of support they had received from their colleagues during implementation of the Win-LIFE intervention. Eleven out of the thirteen teacher participants stated that they supported one another as colleagues through regular discussion, encouragement, the sharing of ideas and teamwork. The majority of the teacher participants from School A emphasised the significance of teamwork. They said: *Teachers worked as a team to implement and introduce the programme to the learners* (FG, 7 April 2014, School A, TP 11), and *Teamwork ... the Grade 4 Natural Sciences and Technology teachers and Life Skills teachers were so incredible* (FG, 7 April 2014, School A, TP 12).

In support of these reported experiences, I made the following field notes: *Most of the teachers from School A were positive about their fellow colleagues and felt supported by the rest of the teachers* (FN, 7 April 2014). A practical example of support by colleagues was captured in the participants' reports that some of their colleagues used the Win-LIFE intervention workbooks to give the learners homework when a teacher was absent from school. One of the teachers explained this as follows: *Some educators supported me. ... they gave the learners work in the workbook as homework when I was absent from school* (FG, 7 April 2014, School A, TP 7).

Two teacher participants from School A disagreed with their colleagues in terms of the support they had received from other teachers at School A. These participants said: *They didn't support us* (FG, 7 April 2014, School A, TP 8), and *There was not much support from the educators as they complained that it took their periods* (FG, 7 April 2014, School A, TP 6). As foregrounded in previous sections, the teacher

participants from School A therefore did not all share the same view in terms of their experiences with the implementation of the Win-LIFE intervention.

According to all teacher participants from School B, they had experienced support and assistance from their colleagues during implementation of the intervention. Contributions such as the following attest to this: *I was getting support from my colleagues because sometimes they also monitored the books* (FG, 7 April 2014, School B, TP 3), and *Other educators were also interested and encouraged learners to take part and participate* (FG, 7 April 2014, School B, TP 2) also pointing to the interest of teachers who did not form part of the project. Teacher participants' experience of solidarity and fellowship at School B is illustrated by the following statement: *It was a joint venture by all the Grade 4 to 6 educators from the school. We all tried to work together. Educators who teach Life Skills, Natural Sciences and Technology were helping each other with ideas and practical examples* (FN, 7 April 2014). As such, it seems apparent that the teacher participants from School B shared a joint interest in the Win-LIFE intervention and supported one another during the implementation phase of the project.

The statements made by teacher participants from School B were confirmed by the participants from School C who said: *The teachers were very positive and they also liked the programme* (FN, 7 April 2014) as well as *Other educators were also supportive* (FG, 7 April 2014, School C, TP 4). Teacher participants from School C furthermore indicated that they had been talking about the Win-LIFE intervention with one another, explaining that: *We usually discussed the positive attitudes the learners had when using the booklets* (FG, 7 April 2014, School C, TP 5). In this manner, experiences about implementation of the Win-LIFE intervention and the responses of learners were seemingly shared by the participants with their colleagues.

4.4.2.3   Category 3.2.3: Support by researchers of the University of Pretoria

The teacher participants from the three schools indicated different experiences in terms of the support they had received from researchers of the University of Pretoria. Some of the teacher participants believed that the training and support they had received from the research team had been sufficient, whilst others indicated a need for continued training and support throughout the implementation of the Win-LIFE intervention.

Teacher participants from School C shared a positive experience of the training and support they had received from the research team. A participant explained her experience in the following way:

> *You and your colleagues really went out of your way to get our input about the intervention from the start. I remember that we focused on 'what should be included' from our and from parents' perspectives. I really valued this. Because you did not impose anything on us. Even when we got the intervention from you, I could see that you did include most of our suggestions. Also, when you delivered the workbooks and guides for the teachers, you took time to train us. You even did two lessons as examples. That really helped me a lot. What I also appreciated is the fact that you visited us from week three, until week 10. This was valuable for me, because if there was anything I did not understand, I could ask you or the students who accompanied you* (FG, 7 April 2014, School C, TP 2).

Another teacher participant from School C seemingly agreed, as captured in the following extract from the data:

> *I think the training we received was enough. We learned about the content and activities when we had that Saturday session in Pretoria and when the books was delivered, you practically showed us what to do and how to present the lessons to the learners. Also, when you and the students came to do the observations, I had the opportunity to ask you questions if I was uncertain about anything. But the intervention is actually very straight forward. I never had any questions or uncertainty about anything. The instructions were very clear* (FG, 7 April 2014, School C, TP 4).

According to the participants from School C they valued the fact that they were consulted during the development of the Win-LIFE intervention. They also seemingly valued the training they had received, the example lessons, and the observational visits during implementation of the intervention provided to them by the researchers of the university.

Even though time was allocated for training during the delivery of the workbooks and teacher guides to the schools, some teachers were apparently of the view that they would have benefitted from additional training sessions. The teacher participants from School B, for example, mentioned that the training could have been more extensive and indicated that they experienced a need for further training, saying that: *If workshops could have been conducted more often, enough information would have been distributed amongst teachers* (FG, 7 April 2014, School B, and TP 3), *Refresher workshops will assist us to check if we have left out any information. It will also help us to review what we have been trained on* (FG, 7 April 2014, School B, TP 1), and *More workshops or training sessions are needed to implement the programme as*

required by the University (FG, 7 April 2014, School B, TP 2). It is apparent that the teacher participants from School B were of the view that additional training sessions could have been beneficial to them.

4.4.3 Sub-theme 3.3: Challenges experienced and suggestions by teachers for future implementation of the Win-LIFE intervention

In this sub-theme the focus falls on the challenges experienced by the teacher participants when implementing the Win-LIFE intervention, as well as the suggestions they made for future implementation of the intervention. The majority of the teacher participants indicated that they had experienced several challenges with the implementation of the Win-LIFE intervention between August and October 2014, in terms of an additional workload, limited time available to implement the intervention, parents' limited cooperation as well as challenges to align the intervention's themes with CAPS that had to be covered according to fixed timelines.

Based on the participants' reports, I identified four categories for Sub-theme 3.3, namely non-alignment with the sequence of topics covered in the CAPS (Category 3.3.1); implementation schedule and time frame of implementation (Category 3.3.2); parents' limited cooperation (Category 3.3.3) and teachers' workload (Category 3.3.4). In identifying these categories, I was guided by the inclusion and exclusion criteria summarised in Table 4.10.

Table 4.10: Inclusion and exclusion criteria for Sub-theme 3.3

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Sub-theme 3.3 Challenges experienced and suggestions by teachers for future implementation of the Win-LIFE health promotion intervention	Data that indicates challenges experienced by the teacher participants when implementing the Win-LIFE intervention and their suggestions for future implementation of the intervention	Data referring to the challenges experienced during development of the Win-LIFE intervention and suggestions of how these could be addressed in future
Category 3.3.1 Non-alignment with the sequence of topics covered in the CAPS	Data that relates to the challenge of non-alignment between the topics and sequence of topics covered in the Win-LIFE intervention, when compared to the CAPS and suggestions made in this regard	Data referring to challenges and suggestions by the teachers in terms of the proposed implementation schedule and time frame, limited parent cooperation or teachers' workload when implementing the Win-LIFE intervention

	INCLUSION CRITERIA	EXCLUSION CRITERIA
Category 3.3.2 Implementation schedule and time frame of implementation	Data referring to challenges and suggestions that concern the implementation schedule and time frame available for implementing the Win-LIFE intervention	Data relating to challenges and suggestions that concern the non-alignment between the Win-LIFE intervention and the CAPS, limited parent cooperation or teachers' workload when implementing the intervention
Category 3.3.3 Parents' limited cooperation	Data indicating limited parent involvement and the challenges this implied for implementation of the Win-LIFE intervention as well as suggestions to address this challenge in future	Data referring to challenges and suggestions concerning the non-alignment of the Win-LIFE intervention with the CAPS, the proposed implementation schedule and time frame or teachers' workload when implementing the intervention
Category 3.3.4 Teachers' workload	Data that relates to challenges and suggestions that concern the teachers' workload during implementation of the Win-LIFE intervention	Data referring to challenges and suggestions concerning the non-alignment of the Win-LIFE intervention with the CAPS, the proposed implementation schedule and time frame or parents' limited cooperation when implementing the intervention

4.4.3.1 Category 3.3.1: Non-alignment with the sequence of topics covered in the CAPS

The teacher participants experienced the non-alignment of the topics and sequence thereof in the Win-LIFE intervention when compared to the CAPS as a significant challenge due to their being expected to present the CAPS as stipulated by the Department of Basic Education. Teacher participants from School A described this challenge as follows: *Integrating the programme into our daily activities in classrooms was at times challenging as the themes were in different terms* (FG, 7 April 2014, School A, TP 6). Participants made the following suggestion to address this challenge in future, by indicating a different time for implementation of the Win-LIFE intervention: *Start the programme in January and integrate it according to the sequence of the CAPS* (FN, 7 April 2014). The teacher participants from School C shared this view and said: *Align the programme so that it fits with the Life Skills curriculum* (FG, 7 April 2014, School C, TP 1), after explaining their experience in the following manner: *The content of the programme did not align with the sequence of*

the Life Skills content we are expected to present to the learners (FG, 7 April 2014, School C, TP 1).

During an informal conversation with a teacher participant from School B she indicated that the sequence of the content presented as part of the Win-LIFE intervention needs to align with the content and sequence of the CAPS. The participant said: *Karien, It was really hard to implement the programme firstly because of the duration of the periods, because each period is only thirty minutes long. You know we are expected to cover a lot of content in every single period. But on a more positive note can confirm that It was really easy to focus on Win-LIFE when it correlated with the theme of the CAPS lesson* (FN, 7 April 2014). From these contributions it can be deduced that the participants struggled to present topics of the Win-LIFE intervention when these did not align with the content they were presenting as part of the national school curriculum. For topics where the time of presentation coincided, they seemingly had a positive experience of implementing the Win-LIFE intervention and in this way enriching the curriculum. According to the participants, implementation during different months of the year could address this challenge.

4.4.3.2 Category 3.3.2: Implementation schedule and time frame of implementation

The teacher participants seemingly experienced the suggested implementation schedule and time frame available to implement the Win-LIFE intervention as not realistic. Teacher participants shared the following thoughts regarding their experiences of this reported challenge: *The problem was the time devoted to the programme. It consumed the time for the content of the Life Skills subject* (FG, 7 April 2014, School C, TP 1), *Unfortunately we were given two months to implement everything. The time frame given to us by the university was too short and also did not fit in with the schools' schedule* (FG, 7 April 2014, School B, TP 2), and *You did more than enough Karien, you supplied us with everything we needed during the implementation of the Win-LIFE intervention ... Our only challenge was time. We just did not have enough time to implement everything in the manner the University requested from us* (FN, 7 April 2014). Despite the efforts to develop the Win-LIFE intervention in such a way that teachers would be able to present it as part of the national curriculum, it is possible that the intervention may have contained too much

content to offer in the proposed time frame, based on the shared experiences of the participants.

A teacher participant from School A suggested that some of the content could be included in other learning areas in order to spread it out across subjects, in support of a more effective implementation plan. This participant suggested the following: *Integrate the programme in other learning areas as well ... so that we have enough time over a longer period to implement it* (FN, 7 April 2014). Another teacher participant from School C shared her experiences in the following way: *The problem was time because it had a lot of information, important to learners and parents. Time was not enough to share with learners and parents* (FG, 7 April 2014, School C, TP 13). Contributions such as these point to the teacher participants' willingness to implement the intervention, yet over a longer period of time or with the content spread out more evenly across various subject areas.

The participants suggested that the time frame should be re-evaluated and that the following timeline could be considered: *Start the programme at the beginning of the year* (FG, 7 April 2014, School C, TP1). Other participants suggested the following: *Between these months, April, May, July, August, the implementation will be better* (FG, 7 April 2014, School C, TP 1), thereby indicating a longer period of implementation during an earlier part of the school calendar. With regard to this contribution, I noted the following: *The participants suggested that the Win-LIFE intervention should take place twice a week from March to September. The intervention should not take place during other months as the curriculum and extramural activities take up too much time* (FN, April 2014). As such, the participants' suggestions underscored the importance of scheduling interventions such as Win-LIFE during times in the year when teachers experienced less pressure and would presumably have more time at hand to attend to the aspect of curriculum enrichment.

4.4.3.3 Category 3.3.3: Parents' limited cooperation

The teacher participants viewed the parents' limited cooperation and support to their children as another challenge that negatively affected the implementation of the Win-LIFE intervention. In this regard, a participant from School A said the following: *There was no cooperation between our school and parents* (FN, 7 April 2014) whilst a participant from School C agreed and stated: *Parents did not do the part meant for*

them so there were some gaps (FG, 7 April 2014, School C, TP 1). In further confirmation, the following was reported: *Learners had to ask parents to assist them and there were no cooperation from them* (FG, 7 April 2014, School A, TP 12). In support of reports such as these, I wrote the following in my reflective journal: *The participants continuously mentioned that a significant challenge for them was the lack of interest by the parents* (RJ, 4 June 2019).

A teacher participant from School B elaborated on this and said: *In our community and at our school most parents are not involved. And I am not 100% sure why. It can be transport or maybe because of illiteracy, but then there are also parents staying next to and in front of the school and they are also not involved. Or maybe, they don't know how to be involved?* (FG, 5 November 2015, School B, TP 2). It follows that parents' limited involvement and cooperation were perceived as having negatively influenced the implementation of the intervention. Despite the fact that the teacher participants seemed uncertain about the exact reasons for the limited parent participation, they apparently would have valued better parent involvement.

Some of the teacher participants attempted to identify how better parent involvement could have been promoted, by asking the following: *I want to ask the following … What do we actually do from our side to get parents more involved? Thinking about it now, we've only send the books home and told learners their parents must be involved or help them* (FG, 7 April 2014, School B, TP 3). Other teacher participants similarly reflected on possible room for improvement by saying: *We could not meet the parents as our time was limited* (FN, 7 April 2014), and *We could not actualise the practical activities in the workbooks because we could not visit the learners at their homes to see if planting of seeds are really happening. Also we could not meet with the parents to encourage and motivate them to support their children with the homework activities* (FN, 7 April 2014). Even though things like home visits were not intended for the Win-LIFE intervention, the teacher participants seemingly believed that such efforts could have made a difference.

Teacher participants furthermore suggested that school principals and the GDE could also fulfil a role to facilitate parent involvement, as captured in the following contribution: *The leader of the school must take charge and get more involved. Also, the GDE can arrange campaigns or meetings from the Department of Education's*

side to highlight the importance of parental involvement in programmes such as Win-LIFE (FG, 7 April 2014, TP 1). In addition, the teacher participants were seemingly of the view that the School Management Team (SMT) could display some leadership by becoming more involved with parents from the community. At the time of the implementation of Win-LIFE intervention (2014), the participants allegedly perceived the SMT members as not interested in the intervention, which, according to the participants, may have affected the interest by the parents. One of the participants underscored this point of view by saying the following: *A lack of interest by SMT members … school management team … they also need to educate the parents about the Programme ... they must know it is meant for each and every parent in the community* (FG, 7 April 2014. TP 2).

As such, the teacher participants identified several role players that may encourage parent participation when implementing school-based health promotion interventions. In addition to the teachers themselves taking a more interactive approach that focuses on regular communication with parents of the school, school principals, the management team and SGBs were identified as potential role players that could facilitate positive change in terms of parent cooperation.

4.4.3.4   Category 3.3.4: Teachers' workload

The teachers who participated in the study allegedly experienced their own workload at school as straining and as a challenge when implementing the Win-LIFE intervention. The teacher participants experienced the Win-LIFE intervention as an additional task that they were expected to fit into their already full schedules. A participant, for example, indicated the following: *The workload … if you concentrate a lot on the Win-LIFE books, you are left behind on the curriculum work and then you encounter a problem when you are not complying with the DBE. Our workload is just too much to do additional tasks* (FN, 7 April 2014). Similarly, another participant mentioned the following: *Our workload that we already have is just too much. We have so many kids in one class, and so many that struggle. The department expects us to do a hundred things in a few hours. Our current workload has never been this much* (FG, 7 April 2014, School B, TP 3). In addition, another participant added: *We cannot even cope with what we are supposed to do every day ... the CAPS is so packed and full. We are expected to teach learners, to support learners and their families. The department also has too many things that they demand. I cannot cope*

with the workload I have (FG, 7 April 2014, School A, TP 2).

These contributions highlight the teacher participants' apparent experience that demands in the teaching profession had increased, with the national curriculum and Department of Basic Education setting high standards that are difficult to meet. Adding the roles of learner support, parent support and involvement in extracurricular activities, expectations and demands placed on teachers. Even though the Win-LIFE intervention was not intended to add to teachers' workload, the participants may thus have experienced the implementation of the intervention as overwhelming, most probably due to the possibility of their experiencing some levels of burnout. Against this background, the results on the implementation of the Win-LIFE intervention and the levels of commitment and involvement of the teachers may be better understood.

4.5   CONCLUSION

In this chapter, I reported on the results related to the planning, development and implementation of the Win-LIFE intervention. I reported on the factors considered when the Win-LIFE intervention was planned, including the school community's expectations of the intervention, the food and nutrition-related needs of the community and factors negatively affecting the food and nutrition-related needs of the community. In terms of the goal-driven development of the Win-LIFE intervention, I focused on the encouragement of health promotion through schools, the strengthening of nutrition-related education and the goal of making a contribution to learning. With regard to the implementation of the Win-LIFE intervention, I discussed the results in terms of the general implementation process followed by the teachers, the support experienced by them and the challenges and suggestions for future implementation of the intervention.

In the next chapter, I interpret the themes, sub-themes and categories I discussed in the current chapter against the background of the literature I presented in Chapter 2. Throughout my discussion, I aim to highlight similarities and differences, identify silences and underscore new insight that stems from the study I completed.

CHAPTER 5

FINDINGS ON THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE WIN-LIFE INTERVENTION

5.1 INTRODUCTION

In Chapter 4, I presented the three central themes that I identified during the thematic analysis I completed. The themes and associated sub-themes related to the factors considered when planning the Win-LIFE intervention (Theme 1); the goal-driven development of the intervention (Theme 2) and implementation of the Win-LIFE intervention (Theme 3).

In this chapter, I discuss the findings of my study by comparing the results I presented in the previous chapter to the existing literature included in Chapter 2. I draw attention to similarities, differences and silences in terms of the themes that I identified. Furthermore, I indicate new insight stemming from this study that may contribute to the existing body of knowledge on the development and implementation of health promotion interventions in South African resource-constrained contexts.

5.2 FINDINGS ON THEME 1: FACTORS TO CONSIDER WHEN PLANNING THE WIN-LIFE INTERVENTION

In this section, I discuss the findings I obtained that relate to the planning of the Win-LIFE intervention. I structure my discussion according to the identified sub-themes, relating to the school community's expectations of the intervention, the food and nutrition-related needs of the community, and factors negatively affecting these needs.

5.2.1 Criteria to consider during development of the Win-LIFE intervention

In Section 4.2.1, I presented the perceptions and opinions of the different groups of participants regarding the school community's expectations of the Win-LIFE intervention. In Table 5.1, I summarise the related findings by comparing the results I obtained to existing literature.

Table 5.1: Outline of findings on the expectations of the Win-LIFE intervention

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants expected the Win-LIFE intervention to be of educational and informative value and improve the health-related knowledge and skills of learners and their families	Contento (2011) Cusack et al. (2018) Department of Basic Education (2011) FAO (2005) Jung et al. (2019) Matingwina (2017) Mertens et al. (2020) UNESCO (2016)	Supporting existing literature
Participants expected the Win-LIFE intervention to link with Curriculum Assessment Policy Statements (CAPS)	Belansky et al. (2006) Goldberg et al. (2019) Jung et al. (2019) Mertens et al. (2020) Mukamana and Johri (2016) Sherman and Meuhlhoff (2007) Wenhold, Kruger and Muelhoff (2008)	Supporting existing literature
Participants recommended the integration of group work and cooperative learning opportunities in the Win-LIFE intervention	Gillies, Ashman and Terwel (2007) Slavin (2011)	Supporting existing literature
Participants recommended that the Win-LIFE intervention should include engaging and enjoyable activities	Collier, Keefe and Hirrel (2015)	Supporting existing literature
		New insight
Participants recommended the involvement and participation of parents	Adelman and Taylor (2008) Department of Basic Education (2011) Du Plessis and Subramanien (2014) Epstein (2002) Jung et al. (2019) Johnson and Lazarus (2003) Nyatuka and Nyakan (2015)	Supporting existing literature

As captured in Table 5.1, the findings of the present study confirm the criterion that school-based health promotion interventions need to be informative. More specifically, the participants in the current study shared the expectation that learners had to be able to acquire new knowledge and factually correct information on healthy lifestyle practices when participating in the Win-LIFE intervention, so that they could educate and inform themselves, along with their parents and siblings at home. In addition, my findings indicate a need for knowledge acquisition by the teacher participants themselves, to be able to promote health and Nutrition Education within the broader community.

These findings correlate with the work of Cusack et al. (2018), Jung et al. (2019), Matingwina (2017), Mertens et al. (2020), as well as the Department of Education's (2011) objectives for school-based interventions. Accordingly, the development and acquisition of knowledge, skills and attitudes by learners, parents, teachers and community members in terms of healthy lifestyle practices can be taken as an important goal of interventions of this nature. In further confirmation, UNESCO (2016), the FAO (2005) and Contento (2011) indicate that school-based interventions need to engage participants in a number of educational activities that focus on the provision of information and knowledge acquisition on healthy lifestyle practices, while supporting the development of associated practical skills.

Next, the findings of the current study indicate the importance of a link between school-based interventions and the South African school curriculum (CAPS), with this being regarded as important criterion for such interventions. Although the incorporation of Nutrition Education in school-based curricula across Sub-Saharan Africa is progressing slowly when compared to global development, the preferred method of incorporation on a worldwide scale is still to link school-based interventions with existing curriculum-based learning areas (Belansky et al., 2006; Sherman & Meuhlhoff, 2007). In support of this suggestion, Wenhold et al. (2016) maintain that all school-based interventions ought to be integrated into the CAPS. As indicated in the previous chapter, the people who participated in my study shared this view and were thus seemingly aware of the importance of interventions being based on the national school curriculum.

Furthermore, the findings of my study emphasise the importance of group work and cooperative learning, with the participants recommending these as part of the Win-LIFE intervention. The findings more specifically indicate the view that learners could benefit if cooperative learning and group work were to be included in the Win-LIFE intervention, highlighting the potential benefit of better learning outcomes and social interaction between learners as peers and between learners and their parents when including such activities. This finding correlates with the work of Gillies et al. (2007) who similarly indicate that cooperative learning can support higher level thinking and positive social behaviour. In further support, Slavin (2011) indicates that through cooperative learning, learners can enhance their own and others' learning. As part of

the Win-LIFE intervention, we as a result incorporated small group discussions and numerous group activities.

In addition to the criteria discussed in the previous paragraphs, the participants in the current study specified that school-based interventions, such as the Win-LIFE intervention, may be more beneficial and successful if it is engaging and include enjoyable activities are included. Collier et al. (2015) support this finding by underscoring the role and importance of engaging features in school-based interventions. In confirmation, the findings of the current study point to the participants' expectation that the Win-LIFE intervention had to result in learners feeling enthusiastic about health promotion.

For this purpose, the participants, for example, suggested colourful workbooks that could stimulate learners' interest in the intervention. In addition to confirming the broad criterion of school-based interventions preferably having to be enjoyable, this finding therefore adds new insight into existing literature by foregrounding the significance and utilisation of colourful workbooks as a way of engaging learners in enjoyable activities on healthy lifestyle practices when involving them in a school-based intervention focused on this topic. Closely related, my findings point to the expectation of practical application opportunities for health promotion interventions by means of activities that will engage learners and potentially also their parents at home.

Finally, in addition to learners possibly benefitting from newly gained knowledge and skills, the participants' recommendation for parent involvement implies that knowledge acquisition could extend beyond the level of the learners to reach a broader audience. In support of this finding, Cilliers (2018) as well as Jung et al. (2019) emphasise the importance of parental involvement during the planning of school-based interventions, with the implied possibility of schools and teachers experiencing the benefit of parents' expertise and assistance in return, both during the development and implementation of school-based interventions. In addition to the findings of the current study indicating this, the Department of Basic Education (2011) posits that parent involvement during the planning, development and implementation of school-based interventions can enhance the health-related behaviour of learners, especially when guidance and interventions are implemented in a sustainable

manner at school, home and within the community. In further support, Du Plessis and Subramanien (2014) confirm that the involvement of parents or families in school-based interventions can positively affect the wider community. In addition to this being a working assumption when conceptualising the Win-LIFE intervention project, the participants' confirmation of the value of parent involvement and similar reports in existing studies substantiate the possibility of school-based interventions holding the potential to facilitate positive change in school communities.

As a result of the findings of my study, specifically in terms of the desirable attributes of the Win-LIFE intervention, we thus developed an intervention that included activities, group work, practical application, fun elements and cooperative learning in an attempt to support a positive learning experience, as well as sound knowledge and skills acquisition by the learners. In addition, we ensured a link between the content of the intervention and CAPS, with the purpose of being educational and informative. We furthermore included homework activities that could encourage parent involvement.

5.2.2 Considering the needs of the community in planning the Win-LIFE intervention

I described the views of the teacher and parent participants on the community's food and nutrition-related needs in Section 4.2.2. Table 5.2 provides an outline of the relevant findings and how these relate to existing studies in the field.

Table 5.2: Outline of findings on the community's food and nutrition-related needs

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants indicated the need for in the community to acquire nutritious dietary habits	Contento (2011) Department of Basic Education (2011) Department of Health (2002)	Supporting existing literature
Participants identified knowledge on successful food production practices as a community-based need that could be included as part of the Win-LIFE intervention	DAFF (2013) Department of Basic Education (2011) Roseman et al. (2009)	Supporting existing literature
Participants emphasised a community-based need for guidance on school- and community-based vegetable garden initiatives	Ruel (2001) Low and Van Jaarsveld (2008) Vorster (2009)	Supporting existing literature
Participants highlighted the need for guidance on healthy food	Bokeloh et al. (2009) Faber and Wenhold (2016)	Supporting existing literature

preparation practices in the community		

The participants in the current study indicated a need in the community for basic information on nutritious dietary habits. More specifically, the findings of my study point to the community requiring information on what nutritious dietary habits entail, and also what the consequences of unhealthy dietary habits would be. The Department of Basic Education and the Department of Health both confirm that a lack of sound food- and nutrition-related knowledge can increase unhealthy eating habits, and negatively affect nutrition-related perceptions and practices (Department of Basic Education, 2011; Department of Health, 2002).

Existing research furthermore indicates that food- and nutrition-related knowledge and information can be enhanced through school-based interventions, thereby potentially improving the nutritional status of South Africans residing in resource-constrained communities (Department of Basic Education, 2011; Department of Health, 2002). Contento (2011) confirms that health promotion knowledge and skills, as well as the ability to apply these when wanting to change unhealthy eating habits and make better food choices will benefit the health and well-being of families and community members in resource-constrained communities. In support of this argument, UNICEF (2004) points out that a lack of sufficient knowledge and relevant information on nutritious dietary habits can lead to unhealthy food choices and eating habits.

Besides the need for guidance on healthy eating habits, the participants in the current study indicated that community members required guidance on food production practices. The participants further believed that they could fulfil a supportive role in this regard by providing guidance and training to community members on how to improve food production practices, based on their own knowledge and experience. This finding correlates with the principles of the Sustainable Food Production Programme (SFPS) (Department of Basic Education, 2011), according to which schools can support communities by providing community members with knowledge and practical skills on food production practices as well as the sustainable use of natural resources.

Closely aligned, schools are generally taken as suitable entities that may assist communities to establish sustainable vegetable gardens, where community members can learn how to grow and harvest a variety of vegetables (Department of Basic Education, 2011). This idea is supported by the findings of my study and further confirmed by the National Development Plan's (NDP) vision for 2030 and the Fetsa Tlala Integrated Food Production Initiative (End Hunger) (DAFF, 2013), aimed at the eradication of hunger and assisting communities towards successful food production practices. Studies by Roseman et al. (2009) also emphasise the importance of health promotion interventions that focus on nutrition-related knowledge, healthy food choices, and access to healthy food options, together with increased food production skills. Based on these correlations between the existing literature and the results of my study, it can be concluded that the participants in the current study seemingly realised the importance of empowering communities to address hunger and other poverty-related challenges by providing healthy food through, e.g., community-based vegetable gardens.

More specifically, the participants in the current study indicated that vegetable gardens can serve schools as well as community members by being a source of healthy food. My findings furthermore highlight the importance of involving both parents and learners in such initiatives who could both benefit from knowledge and skills on how to start a vegetable garden at home. In this regard, aaccording to Ruel (2001), as well as Low and Van Jaarsveld (2008), vegetable gardens can strengthen school-based interventions and in this way support healthy eating practices and food choices in a school community. In support, Vorster (2009) confirms that the promotion of vegetable gardens will not only provide community members with healthier food options, but can also address malnutrition, together with household food and nutrition insecurity. The work of Vorster et al. (2011), which emphasises that the promotion of healthy eating habits, nutritious food and sustainable vegetable gardens ought to be seen as a vital developmental need in resource-constrained communities, specifically in Sub-Saharan Africa, further supports these findings of my study.

In terms of the identified need for guidance on healthy food preparation practices, the participants in the current study confirmed that community members could benefit from training on how to prepare food in a healthy way. As community members reportedly tended to deep fry their food and used high amounts of seasoning, the lack

of sufficient knowledge on healthy cooking methods in the participating community seemed clear. Faber and Wenhold (2016) as well as Bokeloh et al. (2009) confirm that school-based interventions can indeed be used to promote healthy food preparation practices at home, teach learners and their families how to establish and maintain home-based vegetable gardens, provide adequate nutrition-based information, and motivate community members to learn more about agriculture and nutrition.

5.2.3 Factors affecting the food and nutrition-related needs of the community

As discussed in Chapter 4 (Section 4.2.3), the teacher and parent participants identified various factors that influenced the needs of the community. They referred to the impact of poverty, the prevalence of malnutrition and household food insecurity, and unhealthy community-based dietary practices. I summarise the findings that relate to these influential factors in Table 5.3, where I indicate how the findings of the current study can be linked to existing literature.

Table 5.3: Outline of findings on factors affecting the community's food and nutrition-related needs

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants identified poverty as a determining factor of the community's food and nutrition-related needs	Oldewage-Theron and Kruger (2008) Statistics South Africa (2012) World Bank (2013)	Supporting existing literature
Participants indicated malnutrition and household food insecurity as factors affecting the community's food and nutrition-related needs	Caprio et al. (2008) FAO (2009) Hendricks and Dlamini (2013) Oldewage-Theron et al. (2006)	Supporting existing literature
Participants highlighted community-based dietary practices as another factor affecting the community's food and nutrition-related needs	Labadarios et al. (2005) Larson and Story (2009) Martins (2005) Steyn et al. (2011)	Supporting existing literature

In the current study, poverty was indicated as a multi-layered, multi-dimensional phenomenon that had a significant effect on various aspects in the lives of the community members, amongst others, on the way in which they selected, prepared and consumed food. As such, the findings of my study indicate that community members residing in the specific resource-constrained community were confronted

with poverty in the form of numerous overlapping hardships at the time of the field work, such as unemployment, hunger, malnutrition and a lack of sanitation and electricity. In addition, the findings I obtained confirm that community members impacted by poverty could be portrayed as not having the means to meet their basic human needs.

This finding confirms the work of Du Toit et al. (2011) who indicate that community members residing in resource-constrained communities may experience a lack of clean water, proper nutrition, health care, education, clothing and adequate housing. The finding further aligns with Statistics South Africa (2012), where the high unemployment rate in South Africa is emphasised as a major factor contributing to poverty in the country. Similarly, the World Bank (2013) verifies the finding that poverty is a principal cause of hunger and can be regarded as a root cause of unhealthy eating habits and non-communicable diseases. In support, Oldewage-Theron and Kruger (2008) validate the finding that community members residing in resource-constrained communities often have no choice but to consume a monotonous diet that is poor in quality, characterised by reduced nutrients (Oldewage-Theron & Kruger, 2008).

Next, the findings of the current study highlight a link between malnutrition and the capacity of people to be taught, learn and work, as well as to take care of their own family members. My findings more specifically point to a relation between parents' tendency to maintain healthy dietary habits and the nutritional status of their children. The findings therefore confirm that unhealthy food choices and dietary habits can lead to community members not reaching their full potential, and to the continued existence of malnutrition. This finding aligns with the work of Hendricks and Dlamini (2013), according to which South African resource-constrained communities is widely confronted with malnutrition across all age groups. These authors furthermore confirm the link between malnutrition on the one hand, and diminished academic proficiency, decreased school registration, and weakened cognitive, motor and social-emotional development of children on the other (Hendricks & Dlamini, 2013).

With regard to food commonly consumed by community members in resource-constrained communities, the findings of the current study indicate that the community members mostly consumed carbohydrates in the form of bread and

porridge for the various meal times when at home. The community members also tended to limit their portion sizes and omit meals when there was not sufficient food for everyone. As such, the findings of my study point to unhealthy dietary habits in the community and to the occurrence of malnutrition as a result of household food insecurity. These findings correlate with the findings of the FAO (2009) that highlight food availability and access to food as dimensions of food security, implying that food security will be threatened by these two factors, especially in urban Southern African households.

In support of this finding, Oldewage-Theron, Dicks and Napier (2006) similarly found that community members in resource-constrained communities generally tend to consume less appropriate food items or in some cases omit meals in an attempt to cope with household food insecurity. In this regard, the work of Caprio et al. (2008) indicates that the unhealthy eating habits of community members residing in resource-constrained communities can often be related to the availability of low-cost energy-dense and poor nutritional quality food. In the same way, I found that the community where my study was conducted often tended to consume little or no low-cost food items that did not hold sufficient nutritional value. They specifically consumed high volumes of starch.

I furthermore found that the members of the resource-constrained community where the study was undertaken did not have access to a variety of food stores with a range of food items, probably adding to their habit of high energy-dense food consumption, with food items high in carbohydrates, sugars and salts, as indicated previously. Community members primarily spent their monthly food budgets on maize, chicken and bread, which confirms the findings of a study by Martins (2005). In addition, my study indicates that tea, milk and white bread were regularly consumed by the community members, with this finding correlating with the studies of Labadarios et al. (2005).

Next, the findings of the current study indicate that, due to the context of community members having to travel long distances to and from work, they tended to purchase refined food with a high fat content, as these food types are often simple to prepare in circumstances where one is tired and does not have time available for food preparation. The work of Bourne et al. (2002) corresponds with this finding. In

addition, my findings confirm that the community members were predisposed to purchase fast food items from informal vendors in the area at affordable prices, as also found by Feeley et al. (2012) as well as Steyn et al. (2011).

Finally, the findings of my study foreground the potential role of schools in terms of learners' food consumption practices, since many South African learners consume some meals that have been prepared at school, as was the case in all the schools involved in the Win-LIFE project As such, many South African learners frequently consume food that is made available to them as part of the national school feeding Programme (Larson & Story, 2009). The food provided to the learners may thus serve as an example of a balanced meal if the meals are prepared by the school funding Programme. However, as this is a mere working assumption, more research is required before coming to final conclusions.

5.3   FINDINGS ON THEME 2: GOAL-DRIVEN DEVELOPMENT OF THE WIN-LIFE INTERVENTION

In this section, I discuss the findings of the current study that relate to the goal-driven development of the Win-LIFE intervention. I structure my discussion according to the identified sub-themes as presented in Chapter 4 (Section 4.3), with these entailing the encouragement of health promotion through schools, the strengthening of Nutrition Education, and the goal of making a contribution to learning.

5.3.1   Health promotion through schools as goal of the Win-LIFE intervention

When discussing health promotion through schools as underlying goal of the Win-LIFE intervention, the participants referred to the health promotion role of schools, schools as facilitators of parent collaboration, the possibility of enriched curricula, and the value of networks with governmental departments. In Table 5.4 I summarise the findings related to the encouragement of health promotion through schools in relation to the relevant existing literature.

Table 5.4: Outline of findings on the goal of health promotion through schools

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants emphasised the health promotion role of schools	Department of Basic Education (2011) Jung et al. (2019)	Supporting existing literature

	Lee et al. (2019) Steyn et al. (2011) Turunen et al. (2017) WHO (2016)	
Schools were regarded as facilitators of parent involvement and collaboration	Jung et al. (2019) St. Leger (2004) Du Plessis and Subramanien (2014)	Supporting existing literature
Enriched curricula were emphasised as important for health promotion interventions	Jung et al. (2019) Lee et al. (2020) Wenhold et al. (2016)	Supporting existing literature
Networks with governmental departments were indicated as valuable for health promotion initiatives	Departments of Health and Basic Education (2012) Jung et al. (2019) Lee et al. (2020)	Supporting existing literature

The findings I obtained indicate schools as unique resources and suitable settings for promoting the health of learners, their parents and community members. More specifically, schools are regarded as being in a suitable position to reach large groups of learners at different developmental stages of their lives, from early childhood through to adolescence. In this way, schools hold the potential of having a positive effect on the establishment of lifelong healthy eating patterns and may be regarded as systems of care that can embrace the health promotion and well-being of learners, their families and other community members. These findings correspond with the views of Jung et al. (2019), Lee et al. (2019), Turunen et al. (2017) as well as the WHO (2016) that similarly accentuate the vital role that schools can fulfil by being settings that may promote health and Nutrition Education. More specifically, due to the potential positive influence on healthy eating habits, schools thus hold the potential to contribute to addressing malnutrition, hunger and non-communicable diseases.

Based on the findings of the current study, I can conclude that health promotion interventions in the school context may encourage healthy eating habits and well-being in general in a school community. This finding is explained by Jung et al. (2019), Lee et al. (2019), Turunen et al. (2017) as well as the WHO (2016), stating that schools are able to influence learners positively during critical developmental stages of their lives, when their eating habits and lifestyle patterns are being established. A study by Steyn et al. (2011) confirms this finding by indicating schools as suitable environments for health promotion interventions, with the possibility of influencing health-related behaviour, which can subsequently become established patterns

during adulthood. The Department of Basic Education (2011) agrees that learners represent a large portion of society that is accessible over a prolonged period of time, in a setting (schools) where learning and education are the norm. It follows that schools can be regarded as key role-players in reaching the goal of health promotion amongst learners and the broader community, as also emphasised by the findings of the current study.

In addition to emphasising the important role of schools in health promotion initiatives, the participants in the current study prioritised parent involvement when undertaking a school-based intervention. To this end, the findings I obtained indicate that schools can promote health and health-related knowledge amongst teachers, families and even other community members, rather than only amongst learners. These findings align with the work of Jung et al. (2019) and St. Leger (2004) who all confirm that parents are an important link between schools and communities. Research by these authors more specifically indicates that schools where parents or families are involved will in turn positively influence the broader community. In correlation, the Departments of Health and Basic Education (2012) also indicate that the involvement of parents or families at school can provide support when aiming to facilitate positive change, and in this way encourage health promotion within the broader community.

Next, the participants in the current study regarded schools as enablers of an enriched curriculum. Even though my findings represent the view that health promotion forms part of the current Life Skills curriculum in South Africa, it was recommended that teaching and learning activities be supplemented in the form of an enriched curriculum and supportive activities across various learning areas (school subjects). By, for example, including curriculum-enriching activities, such as games and different work stations for activities, learners' health-related knowledge, their sense of responsibility and their attitude towards environmental matters may increase. In correspondence with this finding, the FAO (2009) suggests that health promotion and Nutrition Education can be incorporated across different subjects and included as part of extra-curricular activities that involve families and community members. In confirmation, Wenhold et al. (2016) maintain that health promotion and Nutrition Education ought to be integrated into extra-curricular activities to support the CAPS. According to these authors, an enriched curriculum can draw attention to

healthy food consumption practices and nutrition-related habits amongst learners, with the potential of facilitating change (Wenhold et al., 2016).

Finally, the participants in the current study identified schools as possible initiators of collaboration with external networks that may in turn benefit learners, their parents and the community. For example, collaboration between schools and the Departments of Basic Education, Social Development and Health, cannot only benefit and support schools but may support the health and well-being of learners and the broader community. Participants confirmed that schools can, e.g., collaborate with such departments to assist the community in identifying health-related challenges, and possible interventions or strategies to address the identified challenges in the school community.

The findings of my study furthermore foreground the possible benefit of community members having better access to information and services when networks are in place between school communities and external role-players in the field. In addition, I found that the participants regarded the establishment of networks with government departments as fundamental to set the scene for active involvement in the overall teaching and learning processes at school.

In line with these findings, the Departments of Health and Basic Education (2012) encourage local partnerships and collaboration amongst schools and role-players from the Departments of Health, Basic Education and Social Development. The Integrated School Health Policy (ISHP) (Department of Health and Basic Education, 2012) similarly emphasises that schools should build on and strengthen existing school health services, as well as the optimal health and development of school-going learners and the communities where they live and learn by means of network initiatives with government departments. In pursuing this goal during the development phase of the Win-LIFE intervention, I attended to health promotion in schools by including and highlighting the role of schools, schools' facilitation of parent collaboration, the possibility of enriching current school curricula and the value of establishing networks with governmental departments.

5.3.2 Strengthening Nutrition Education through the Win-LIFE intervention

In Chapter 4 (Section 4.3.2), I outlined the participants' views on the goal of

strengthening education on nutrition and nutrition-related topics in the participating primary schools through the Win-LIFE intervention. A stronger focus on Nutrition Education implied the possibility of positive behaviour change and healthier lifestyle choices by the learners who participated, and perhaps their families too. The participants furthermore highlighted the importance of multi-level and multi-component interventions, as well as the involvement of parents and community members in health-related homework assignments. Lastly, the participants promoted sustainable school-based vegetable gardens as a valuable part of school-based interventions. Table 5.5 provides an outline of the findings on the strengthening of Nutrition Education through schools, indicating how the results of the current study align with the existing literature.

Table 5.5: Outline of findings on the strengthening of Nutrition Education through the Win-LIFE intervention

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Strengthened Nutrition Education at school level may lead to positive behaviour change and healthier lifestyle choices	FAO (2009) Rendall-Nkosi et al. (2013) De Villiers et al. (2018)	Supporting existing literature
Multi-level and multi-component interventions are valuable to strengthen Nutrition Education	Roseman et al. (2011)	Supporting existing literature
	Cason and Logan (2006)	Silences in the data when compared to existing studies
Parent and community involvement with homework activities is important when implementing health promotion interventions in support of Nutrition Education	Wenhold et al. (2016)	Supporting existing literature
Vegetable gardens may strengthen Nutrition Education offered by schools	Department of Basic Education (2011)	Supporting existing literature

According to the findings of the current study, strengthened Nutrition Education at school level can result in positive change in terms of the general health of individuals and communities. As Nutrition Education can provide learners with correct information on healthy eating habits, it was important to strengthen this through the Win-LIFE intervention, by teaching learners about, e.g., the different types of food groups and the food pyramid. Findings that relate to other preferred topics for the Win-LIFE intervention include the findings I obtained on suitable food storage

guidelines, food safety and food production, all of which may result in healthier lifestyle choices.

The findings of my study confirm the work of Rendall-Nkosi et al. (2013) who suggest that Nutrition Education can affect the nutrition-related needs of learners in resource-constrained communities and support communities to adjust their food purchase, preparation and consumption practices. Studies conducted by De Villiers et al. (2018) verify that Nutrition Education should ultimately aim for a decrease in non-communicable diseases and nutritional disorders associated with poverty and malnutrition. In support, the FAO (2009) indicates that Nutrition Education is vital to decrease poverty, expand agricultural foundations and increase healthier lifestyle choices. In addition, Sharma and Nagar (2006) note that Nutrition Education through schools can bring about transformations in resource-constrained communities, specifically in terms of positive health-related changes and healthier lifestyle choices. A comparison of these findings and the findings of the current study led to the conclusion that the link between strong Nutrition Education, better food-related practices and the ultimate reduction of poverty is generally recognised.

With regard to the specifications of a successful health promotion intervention, my findings emphasise multi-level and multi-component initiatives as suitable and potentially beneficial. More specifically, my findings indicate that interventions should not follow an individual-level approach but rather focus on various different levels such as the environment, policy and healthy lifestyle changes for learners, their families and the school community. In line with the findings I obtained, research by Roseman et al. (2011) underscores the importance of developing and implementing multi-component interventions that focus on aspects such as nutrition-related knowledge, healthy food choices and accessibility to healthy food options, environmental sustainability and better food production skills.

Contrary to these findings, Cason and Logan (2006) note that physical activity should be integrated as part of multi-component interventions, whereas Walsh et al. (2003) highlight the importance of the correct attitude to Nutrition Education for behavioural change to occur. The fact that the participants in my study remained silent about these aspects may be ascribed to persistent malnutrition because of poverty and household food insecurity in the school community at the time of this study.

Participants possibly viewed the food and nutrition-related needs of the school community as more significant than the inclusion of physical activities and specific attitudes to Nutrition Education, when identifying important content for the Win-LIFE intervention. These are, however, mere working hypotheses that require further investigation.

The participants in the current study were furthermore of the opinion that parents can shape learners' attitudes about their homework and that learners would be more likely to complete homework activities if their parents were to voice the importance of this and become actively involved in homework activities. The findings of my study thus point to the importance of parent involvement in homework activities in a health promotion intervention, implying the possibility of parents developing their own health promotion-related capacity and being equipped with knowledge and skills on topics such as food hygiene, healthy diets and a healthy lifestyle that may prevent non-communicable diseases. In developing the Win-LIFE intervention to possibly benefit the parents, the importance of gaining knowledge on healthy food-related practices was thus taken into account. Wenhold et al. (2016) confirm these findings by indicating that homework assignments on health promotion initiatives that involve parents can increase the positive outcome of school-based interventions. In addition, Wenhold et al. (2016) indicate that healthier lifestyle choices can be linked to the depth of school-based interventions, relevant homework assignments and parent involvement in activities.

According to the findings of the current study, the promotion of vegetable gardens may strengthen Nutrition Education when offered in schools. The participants suggested the inclusion of such content in the Win-LIFE intervention during the development phase of the intervention. My findings more specifically indicate that vegetable gardens can support school- and community-based development, encourage collaboration and interaction amongst participants, and facilitate joint learning and support of one another. In line with these findings, the NSNP (Department of Basic Education, 2011) promotes Nutrition Education for learners, teachers and parents through school-based vegetable gardens as well as extra- and co-curricular activities. In further support of my findings, the Sustainable Food Production Programme in Schools (SFPS) focuses on equipping school communities with knowledge and practical skills on food production, as well as on the sustainable

use of natural resources (Department of Basic Education, 2011; Rendall-Nkosi et al., 2013). The Department of Basic Education (2011) confirms that school-based vegetable gardens can be used to develop school communities' knowledge, skills and attitudes about food and nutrition.

Accordingly, schools are encouraged to establish and sustain vegetable gardens where school communities (learners, teachers and parents) can learn how to grow and harvest a variety of vegetables (Department of Basic Education, 2011). This recommendation on national level is echoed by the findings of the current study, which in the same manner reports on the benefits of school- and community-based vegetable gardens in resource-constrained communities. Not only can learners and other community members gain knowledge and skills through vegetable gardens, the challenges related to poverty and malnutrition can also be addressed by means of, e.g., enriched meal provision to learners and healthy food products being available to community members.

5.3.3 Contributing to learning through the Win-LIFE intervention

The findings of the current study highlight the value of an experiential and practical learning approach (including components of group work and cooperative learning) when presenting a health promotion intervention. By following these guidelines, learning can be encouraged. In Table 5.6 I provide an outline of the findings that relate to the contribution that can be made to learning when including experiential, cooperative and practical activities as part of a school-based health promotion intervention.

Table 5.6: Outline of findings on the contribution of the Win-LIFE intervention to learning

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
An experiential and practical learning approach is valuable for school-based interventions such as the Win-LIFE intervention	Benecke (2004) Kolb and Kolb (2005) Brame and Briel (2015) Johnson and Lazarus (2003) Waliczek et al. (2001)	Supporting existing literature
Group work and cooperative learning activities can enhance the learning experience of learners and should form part of the Win-LIFE intervention	Brame and Briel (2015) Johnson and Lazarus (2003) Waliczek et al. (2001)	Supporting existing literature

The findings of my study emphasise the value and importance of experiential learning when facilitating school-based interventions with learners. Such an approach can assist learners in developing their own understanding by experiencing content through real-life activities and direct engagement as part of the learning process. In this way, learners can acquire knowledge in a practical manner and may, in turn, share their newly gained knowledge with their parents and other community members who may not be knowledgeable about a certain topic, such as health promotion and healthy lifestyle choices, in the case of the Win-LIFE intervention. These findings correlate with the work of Kolb and Kolb (2005) who indicate that an experiential learning approach will engage learners in learning processes, such as concrete experiences and active participation that may enhance their learning. Benecke (2004) similarly mentions that learners who engage in experiential learning are likely to develop new knowledge and skills.

Closely aligned, I found that group work and cooperative learning were regarded as suitable strategies for school-based interventions by the participants, such as the Win-LIFE intervention. An example of cooperative learning that was emphasised as important to include as part of the Win-LIFE intervention entailed group work where learners could collaboratively work towards specific joint goals. In accordance with the findings of Johnson and Lazarus (2003), I found that by doing this, learners could work together and in the process enhance their own and others' learning.

As part of the development of the Win-LIFE intervention, participants recommended the use of cooperative learning for activities in the form of especially small group discussions. This finding is elaborated on by the work of Waliczek et al. (2001) who posit that experiential learning and group work can develop learners' interpersonal relations. The findings of my study support the work of Waliczek et al. (2001), as I found that group work during interventions is valued for learning and cognitive development, yet that the benefits can go beyond this to include the strengthening of interpersonal skills, as stipulated by Waliczek et al. (2001). The participants of the current study furthermore referred to the possibility of strengthened social skills positively affecting feelings of belonging amongst learners if participating in group work and cooperative learning.

5.4 FINDINGS ON THEME 3: IMPLEMENTATION OF THE WIN-LIFE INTERVENTION

In this section, I focus on the findings that relate to the teachers' implementation of the Win-LIFE intervention. I structure my discussion according to the sub-themes I presented in Section 4.4, being the general implementation process that participating teachers followed, the support experienced by teachers during the implementation of the Win-LIFE intervention and the challenges and suggestions by teachers for future implementation of the Win-LIFE health promotion intervention.

5.4.1 Process followed during implementation of the Win-LIFE intervention

I explained the views of the participants on the processes they followed during implementation of the Win-LIFE intervention in Section 4.4.1. The findings of my study indicate that teachers' actual participation in implementing the intervention differed amongst the participating schools, and that various implementation practices were followed. Table 5.7 provides an outline of the findings related to the implementation processes that teachers followed for the Win-LIFE intervention.

Table 5.7: Outline of findings on the implementation processes followed by the teachers

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
The level of teacher participation during implementation of the Win-LIFE intervention differed amongst the participants	None found	New insight
Different implementation procedures were followed for the Win-LIFE intervention	Greenberg et al. (2005)	Supporting existing literature

In my study, I found that the teacher participants' level of commitment and participation in implementing the Win-LIFE intervention differed across the various participating schools and even between teacher participants of the same school. Even though the teachers implemented the Win-LIFE intervention between August and October 2014, some of them did not do so from the beginning until the end. In these cases, only some of the themes included in the intervention were discussed with the learners, being those that correlate with the CAPS, focusing on the themes that were being discussed in class as part of the national school curriculum at that time. A few of the participants were apparently explicitly instructed to focus on the

topics enclosed in the CAPS and their daily responsibilities only, rather than attending to the implementation of the Win-LIFE intervention.

The findings of the current study furthermore indicate that some of the participants experienced the implementation of the Win-LIFE intervention as an additional task to their already heavy workload. They also felt that the expectations for implementation were unrealistic in terms of the proposed time frame. In interpreting these findings, I was not able to obtain existing studies that report on such experiences.

Being a unique tailor-made intervention, my findings on the experiences of the participants in terms of the implementation of the Win-LIFE intervention add new knowledge to the field of school-based interventions, where teachers are involved as facilitators of an enriched school curriculum. Despite the fact that the participants were involved throughout the project and informed the planning and development of the Win-LIFE intervention, certain unforeseen factors still posed distinct challenges for implementation as envisioned. As a result, the participating teachers did not implement the intervention as foreseen. Based on the differing experiences of the teachers (between individuals and schools), more research is required before coming to final conclusions. It may however be deduced that teachers as independent individuals are perhaps not the best option when selecting facilitators for a school-based intervention, as part of curriculum enrichment. The option of co-facilitation between outsiders and teachers may be a better option, yet requires additional research before coming to conclusions.

With regard to the way of implementation of the Win-LIFE intervention, I found that the different teachers followed different approaches, not necessarily aligning with the manner in which the participants were trained and requested to implement the intervention. More specifically, my findings indicate that some of the participants implemented the intervention twice a week when learners were scheduled to study Life Skills, while others implemented the intervention three times a week and also used it for Grade 7 learners, instead of only with Grade 4 to 6 learners as intended. I also found that some participants discussed only certain lessons of the intervention and in some cases learners did not complete any of the Win-LIFE intervention lessons in their workbooks as a result of the implementation.

Overall, my findings indicate that most of the teacher participants did not use the educator's guides or posters they were provided with during implementation of the intervention. In addition, the frequency of implementation and the lessons covered were not done in alignment with the initial plan and agreement. In line with these findings, Greenberg et al. (2005) found that school-based interventions are not always implemented in the same way or proposed process presented to participants during the development process.

5.4.2 Support experienced by teachers during implementation of the Win-LIFE intervention

I presented the results related to the support experienced by teachers during implementation of the Win-LIFE intervention in Section 4.4.2. Teachers who participated were namely supported by their school principals, other teachers as well as researchers of the University of Pretoria, to various extents. Table 5.8 provides an overview of the findings related to the support experienced by the teacher participants during implementation of the Win-LIFE intervention.

Table 5.8: Outline of findings on the support experienced by teachers during implementation of the Win-LIFE intervention

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants experienced different levels of support from their school principals	Greenberg et al. (2005)	Supporting existing literature
		Contradicting existing literature
Participants experienced support from their colleagues during implementation of the Win-LIFE intervention	Whitman and Aldinger (2009)	Supporting existing literature
Participants had mixed experiences about the support they experienced from researchers of the University of Pretoria	Aggleton et al. (2010) Adelman and Taylor (2008) Drake et al. (2012)	Supporting existing literature

The findings of the current study do not indicate a uniform view of the support experienced by the participants from their respective school principals during implementation of the Win-LIFE intervention. Some of the participants were positive about the extent of support they received from their principals, while others felt that they did not receive the necessary support for successful implementation of the intervention. The latter finding correlates with that of Greenberg et al. (2005) who state that during implementation of school-based interventions, the support offered

by school principals is often insufficient and inadequate. These seemingly contradictory findings do therefore not allow for any conclusions and require additional research. Even though the different experiences can possibly be ascribed to the different schools and respective management teams, this assumption requires more research before reaching a conclusion.

With regard to peer support, the participants agreed that they were supported by their colleagues during implementation of the Win-LIFE intervention. They mentioned that acts of support were demonstrated by fellow teachers through, e.g., regular discussions, mutual encouragement, teamwork and the sharing of ideas amongst one another. This finding correlates with the findings of Whitman and Aldinger (2009) who indicate factors that may determine the success of implementation of school-based interventions, with these being a positive work environment, collaboration, leadership, support, teamwork and thorough training.

Finally, the participants in the current study disagreed on the extent of support they experienced from researchers of the University of Pretoria. Some of the participants believed that the training and support they received were sufficient, while other participants indicated a need for additional workshops, continued training opportunities and higher levels of ongoing support during the implementation phase of the intervention. Adelman and Tyler (2008) similarly found that to obtain effective results when implementing school-based interventions, collaborative initiatives between participants and external facilitators can take the form of regular training and support to ensure participants' understanding of their functions, roles and responsibilities.

This finding is also consistent with the work of Drake et al. (2012) who indicate that the implementation of health promotion interventions should include the support, skills and knowledge of societal sectors. In further support, other scholars (Aggleton et al., 2010) similarly emphasise the importance of supporting and working with members of the community to enhance participation and involvement during implementation of school-based interventions.

5.4.3 Challenges experienced and suggestions for future implementation of the Win-LIFE intervention

In this section, I discuss the findings related to the challenges the teacher participants experienced during implementation of the Win-LIFE intervention and the suggestions they made in this regard. I found that many of the participants experienced the implementation of the Win-LIFE intervention as challenging, due to the lack of alignment between the Win-LIFE intervention's sequence of topics and the national school curriculum (CAPS), the time available for implementation, parents' limited cooperation and involvement, and the teachers' workload. In Table 5.9 I provide an overview of the findings related to the challenges experienced and the associated suggestions made by the teacher participants for the Win-LIFE intervention.

Table 5.9: Outline of findings on the challenges experienced and suggestions for implementation of the Win-LIFE intervention

FINDINGS	RELATED LITERATURE	RELATION WITH EXISTING LITERATURE
Participants experienced the lack of alignment between the sequence of the topics included in the Win-LIFE intervention and that of the CAPS as a challenge	Hill et al. (2015) Weare (2010)	Supporting existing literature
Participants experienced the proposed implementation schedule and time frame of implementation as challenging	Darlington et al. (2018)	Supporting existing literature
Participants experienced parents' limited cooperation and involvement as a challenge	Cilliers (2018) Johnson and Lazarus (2003) Nyatuka and Nyakan (2015)	Supporting existing literature
Participants experienced the implementation of the Win-LIFE intervention as adding to their already heavy workload	Bennett et al. (2016) Du Plessis and Subramanien (2014) Mukamana and Johri (2016)	Supporting existing literature

As indicated in Table 5.9, the participants in the current study experienced the lack of alignment between the content of the Win-LIFE intervention and the sequence of topics covered in CAPS as challenging. In this regard, participants recommended that future versions of the Win-LIFE intervention be structured according to CAPS and the sequence of topics as covered in the national curriculum. This finding correlates with a statement of Hill et al. (2015) that indicates several factors as possible influences on the manner in which teachers will implement and utilise school-based health promotion interventions. As such, when the content of an intervention is aligned with

CAPS, it may meet the criterion of a systematic and clear action planning process, as proposed by Weare (2010).

I also found that the participants in the current study experienced the proposed implementation schedule and time frame of implementation of the intervention as challenging. In this regard, the participants suggested that future implementation of the Win-LIFE intervention should take place during specific months of the year, due to other months being filled with many activities and deadlines, as outlined by the national Department of Basic Education. To this end, the participants suggested that school-based interventions (such as the Win-LIFE intervention) should integrate lessons into the existing CAPS with supplementary sessions that may be presented by external facilitators such as researchers of the University of Pretoria in specific months of the year. This experienced challenge and suggested adaptation of the time frame of the Win-LIFE intervention relates to Darlington et al.'s (2018) recommendation that school-based interventions should be tailored and adapted to the specific needs of the target audience.

Next, the findings of the current study confirm that parents' limited cooperation and involvement posed a challenge to the facilitators of the intervention (the teachers). Researchers such as Johnson and Lazarus (2003) agree that schools often experience limited parent involvement as a barrier to creating favourable health promoting environments. If parents do become involved in school activities, they may gain a better knowledge of their children's lives and activities, while the teachers may, in turn, learn from the parents (Nyatuka & Nyakan, 2015). Cilliers (2018) confirms that an inclusive school system implies the active involvement of parents and other community members, and that such a partnership can assist both parents and schools in supporting learners while learners may, in turn, become motivated to be more actively involved in their own health promotion processes (Cilliers, 2018).

Despite these indicated benefits of parent involvement, existing studies as well as the findings of the current study point to limited parent involvement in school-based health promotion initiatives. In order to address this challenge, the teacher participants suggested the involvement of teachers, school management and SGBs in encouraging parents to become more involved as these role players play a significant role in reaching out to parents and encouraging families to become involved in school-

based interventions. Collier et al. (2015) confirm that through such partnerships and community coalitions, essential services and support can be made accessible and distributed in communities by communities to the families of learners who may benefit. This implies that schools, families and communities on ground level cannot simply await service delivery and efforts to support one another by external agencies, such as the government, but need to initiate interventions and support themselves. In this manner, change can be driven from within, thereby strengthening the chances of success (Collier et al., 2015).

Finally, the teachers in my study experienced the implementation of the Win-LIFE intervention as an additional task that added to their already heavy workload. Mukamana and Johri (2016) confirm the importance of teachers' active participation in the implementation of health promotion interventions; yet in South Africa, the work demands of teachers more often than not negatively impact their morale, as they experience elevated levels of occupational stress because of their workload. My findings confirm that in cases where teachers feel like this, the task of facilitator of a health promotion intervention may be viewed as yet another role to fulfil, merely adding to an already full workload. This finding corresponds with the findings of Du Plessis and Subramanien (2014), as well as of Bennett et al. (2016) who state that teachers may experience additional tasks as just too much to handle.

5.5 SITUATING THE FINDINGS OF THE CURRENT STUDY WITHIN THE CONCEPTUAL FRAMEWORK

Bronfenbrenner's social ecological model (Bronfenbrenner, 1979) indicates that social contexts are interrelated and influenced by the other parts of a system. As such, school-based health promotion interventions can facilitate positive change in one system that will, in turn, have a positive effect in other systems. In the case of the Win-LIFE intervention, the aim was to facilitate health-related changes amongst learners and their families, yet this, in turn, resulted in certain changes in the dynamics of the community. In this way, the study I completed foregrounds the health promotional role that schools can fulfil by being involved in developing and implementing interventions, thereby initiating positive change beyond the school context in the broader school community.

As I previously indicated, the microsystem will involve immediate contexts where schools (teachers) for example, interact with learners and their parents on a daily basis. In this case, the school (teachers) may affect learners' and parents' beliefs and health-related behaviour through the development and implementation of health promotion initiatives, while learners and parents may, in turn, affect the beliefs and health-related behaviour of the wider community in which they function. In this way, the development and implementation of school-based health promotion interventions can have a positive effect on the microsystem by enhancing learners' and parents' health-related knowledge and skills, together with their food production, food preparation and food consumption practices. As possible enablers of enriched curricula, schools are in the position to foster the attitudes and behaviours that can support health promotion practices, not only in the immediate microsystem but also in the other systems where learners function and interact with others.

Next, the mesosystem represents a set of microsystems where school principals, teachers, learners and parents interact with one another and are influenced by interactions between the different settings, such as the home, school and wider community. In the current study, the mesosystem consisted of factors that could influence school principals', teachers', parents' and learners' perceptions of the development and implementation of a school-based intervention, more specifically the Win-LIFE intervention in the resource-constrained community where the study was conducted. Events that occurred in the mesosystem affected the developers' and implementers' ideas, opinions and perceptions of school-based interventions, while the developers' and implementers' perceptions had a reciprocal effect on the mesosystem.

Within the mesosystem, the development and implementation of the Win-LIFE intervention created the opportunity for different participants (developers and implementers) to work together, and to cooperate towards improved levels of collaboration and partnerships with the various participants. Through the development and implementation of the intervention, parents could, for example, be supported to identify and address unhealthy eating habits. Against the background of these findings, I posit that, within the mesosystem, schools can be taken as being in the ideal position to develop and implement health promotion interventions, with

teachers being trained and then taking on the role of facilitators and agents of social change.

For implementation of the Win-LIFE intervention in the classrooms, any teacher who formed part of the mesosystem had to be supported and trained to implement the intervention. The teachers' willingness to implement the Win-LIFE intervention in the current study was thus influenced by the support they experienced from school principals, fellow teachers and researchers of the University of Pretoria during implementation of the intervention. Challenges that influenced the manner in which the teacher participants implemented the intervention include the lack of alignment between the sequence of topics in the intervention and those covered in CAPS, the negotiated implementation schedule and timeframe, parents' limited cooperation, and the teachers' workload.

As the exosystem entails the connection between systems where individuals do not have specific positions or between environments where individuals are active participants, exosystems consist of neighbourhoods, support networks, and the wider community − in the case of the current study, those that influenced the developers' and implementers' perceptions of the Win-LIFE intervention. In the resource-constrained community where the study was conducted, the wider community context was thus regarded as the exosystem. Within this community context, the development and implementation of the Win-LIFE intervention promised the benefit of change in terms of learners', parents' and teachers' attitudes to health promotion and healthy lifestyle choices. In addition, the perceptions regarding the development and implementation of the Win-LIFE intervention held by the developers and implementers that participated in the study may have influenced the perceptions of learners, teachers and parents at neighbouring schools that may also become involved in such health promotion initiatives. Community-wide change may follow.

The goal-driven development of the Win-LIFE intervention included active participation by the broader school community, involving parents, teachers and university researchers that formed collaborative networks with one another. These participants' perceptions had an influence on the development of the Win-LIFE intervention and included the encouragement of health promotion through schools, the strengthening of nutrition-based education and the importance of making a contribution to learning.

Finally, according to Bronfenbrenner's social ecological model (Bronfenbrenner, 1979), the macrosystem consists of political ideologies, cultural beliefs, policies and values within which individuals function. Although it was not the aim of the Win-LIFE intervention, if successful, school-based interventions have the potential to impact policy development. Policies that, for example, determine food pricing can affect community members' food choices because of the belief that healthy food types are more expensive than nutrient-dense foods such as bread, or merely as a result of affordability. Such factors can, however, be addressed by means of school-based interventions, such as the Win-LIFE intervention, where community members may gain information on how to select healthy food types within a limited budget. Finally, the Win-LIFE intervention also supported collaborative partnerships and networking, such as the partnerships between the participating schools, government departments, farmers and vegetable garden project managers.

In addition to relying on Bronfenbrenner's social ecological model (Bronfenbrenner, 1979), the development and implementation of the Win-LIFE intervention was based on Kolb's theory of experiential learning. More specifically, the development and implementation of the intervention aimed to improve learners' health-related knowledge and skills by engaging learners in experiential learning activities that could enhance their learning. This implied regular feedback to learners and involved different learning experiences, such as concrete examples, reflective observation and active participation in group work. The Win-LIFE intervention was thus developed in such a way that learners could acquire new knowledge and skills by experiencing the learning content first-hand during collaborative activities.

Based on the findings I obtained, I posit that an experiential learning approach can support primary school learners to learn, grow and develop more optimally, when followed during school-based interventions, due to their being able to participate and engage with the learning content, in collaboration with their peers. In this regard, the Win-LIFE intervention was developed to portray two modes of learning experiences during implementation, namely, concrete experiences and abstract conceptualisation of the content. As part of the Win-LIFE intervention, concrete experiences entailed practical activities, where learners had the opportunity to actively experience what they were learning about. In support, abstract conceptualisation was included during

the development of the intervention to give meaning to discoveries and to relate these to learners' existing knowledge during the implementation process.

These two modes of learning coincide with Kolb's theory of experiential learning (Kolb & Kolb, 2005) by encouraging learning about health promotion and strengthening nutrition-based education by means of active engagement between teachers, learners and parents in a process that may best enhance both learners' learning and parents' acquisition of new knowledge. Such an approach can contribute to learning and result in new knowledge, skills and changed attitudes (Benecke, 2004). Kolb and Kolb (2005) state that experiential learning can be best facilitated when drawing on the beliefs and ideas of the learner when discussing a topic, such as health promotion and then integrating this with more refined ideas, e.g., including parental involvement, considering the food and nutrition-related needs of a participating community, utilising CAPS as baseline and creating cooperative learning opportunities. In line with Bronfenbrenner's (1979) beliefs, Kolb's theory of experiential learning states that learning can stem from interaction between a person and the environment.

Finally, I posit that when positive psychology forms the basis for the development and implementation of school-based health promotion interventions, the implication is a focus on and the inclusion of the characteristics of healthy individuals, school communities and community coalitions (Seligman, 2002; Weare, 2010), with all of these potentially supporting healthy practices and positive social change. The development and implementation of the Win-LIFE intervention was based on the assumption that people want to live healthier lives and further develop their own knowledge and skills (Seligman & Csikszentmihalyi, 2000). By working from this perspective, the development and implementation of the Win-LIFE intervention emphasised the strengths and resources available to the participants that were then mobilised in support of health promotion in the school community context. I was furthermore able to view the school community and participants as active role-players in their own development, who want to continually grow, develop and thrive (Seligman & Csikszentmihalyi, 2000).

5.6 CONCLUSION

In Chapter 5, I discussed the findings of the current study by interpreting the results against the existing literature presented and discussed in Chapter 2. Throughout, I

attempted to highlight similarities, contradictions and silences in the data when comparing the results I obtained with the existing literature. I also foregrounded the new insight that stems from my study and related my findings to the conceptual framework I explained in Chapter 2.

In Chapter 6, I address the research questions and come to conclusions based on the findings of the study. I reflect on the strengths of my study and its potential contribution, and identify the challenges I faced during the research process. I conclude the thesis by making recommendations for future training, practice and research.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

In Chapter 5, I presented the findings of my study relating to the planning, development and implementation of the Win-LIFE intervention. For the purpose of my discussion, I interpreted the results I obtained against the existing literature I presented and discussed in Chapter 2. Throughout, I highlighted similarities and contradictions, and identified silences and new insight stemming from the research.

In this final chapter, I provide a brief overview of the previous chapters and then draw conclusions when addressing the research questions formulated in Chapter 1. I reflect on the strengths and potential contribution of the study, and identify possible limitations as well as the challenges I faced in undertaking the study. I conclude the thesis by making recommendations for future training, practice and research.

6.2 OVERVIEW OF PRECEDING CHAPTERS

Chapter 1 served as a background chapter to conducting this thesis. I provided an orientation to my study and stated my reasons for focusing on the development and implementation of the Win-LIFE health promotion intervention. I outlined the purpose of the study and formulated research questions. Thereafter, I clarified the key concepts underlying the study, and gave an overview of the selected paradigmatic perspectives, research design and methodological strategies I employed. I concluded the chapter with a brief introduction of the ethical considerations and quality criteria I aimed to adhere to during the study.

In Chapter 2 I reviewed existing literature applicable to the development and implementation of school-based health promotion interventions. I focused on the global impact of poverty and malnutrition, and included discussions of food consumption practices in resource-constrained communities, school-based Nutrition Education, as well as the potential role of schools and teachers in health promotion interventions. Next, I elaborated on the planning, development and implementation

of school-based health promotion interventions, as well as the role and importance of community coalitions during such initiatives. I concluded Chapter 2 with a discussion of the conceptual framework I compiled to guide me in undertaking this study.

In Chapter 3, I explained the research methodology and strategies I utilised in conducting the current study. I explained Interpretivism as meta-theory and described the qualitative research approach I followed whilst applying PRA principles. I also discussed my selected research design, as well as the data generation, documentation, analysis and interpretation methods I relied on. I concluded Chapter 3 with a discussion of the ethical considerations and quality criteria I observed in completing this study.

Chapter 4 focused on the results of the study. I presented the three central themes identified during thematic analysis of the generated data, focusing on the planning of the Win-LIFE health promotion intervention, the goal-driven development of the intervention and its implementation. In reporting the results I enhanced my discussions by including verbatim excerpts from the data.

In Chapter 5, I presented the findings of my study by relating the results to the existing literature presented in Chapter 2. I highlighted correlations, contractions, silences and new insight. As part of Chapter 5, I drew conclusions regarding the development and implementation of the Win-LIFE school-based health promotion intervention, as experienced and reported on by the participants.

6.3 CONCLUSIONS

In this section I draw conclusions based on the findings of the current study. I first address the secondary research questions that guided my study, after which I focus on the primary questions I formulated in Chapter 1.

6.3.1 Secondary research question 1: How do school principals, deputy principals and teachers view the health promotion role of schools and provide related support in a resource-constrained community in South Africa?

Participants in the current study (principals, deputy principals and teachers) highlighted the important role of schools in health promotion interventions. Based on the findings I obtained in this regard, I can conclude that schools can fulfil a critical role in health promotion initiatives that are undertaken in school communities. More specifically, schools can be viewed as having the potential to influence the health-related behaviour of both learners and their families positively, with the added advantage of such changed behaviour possibly becoming established patterns when learners reach adulthood. In terms of the important role of schools in health promotion in vulnerable communities, my findings confirm that a large population of people can be reached when schools become involved in interventions over a prolonged period of time. Where learning and education are valued, improved health and well-being of learners may lead to enhanced educational performance. As such, health promotion initiatives by means of school-based interventions have the potential to reach groups of people beyond the walls of health facilities, thereby supporting positive change on a large scale.

In terms of the reasons for unhealthy food production, preparation and consumption practices in the participating resource-constrained community where the study was undertaken, limited health-related knowledge and skills, in combination with a high level of poverty, can be underscored. To this end, staff members of the participating schools maintained that the community required a health promotion intervention that schools could facilitate while accentuating healthy food consumption and nutrition-related practices that could support learners, parents and the wider community.

Against this background, I posit that the implementation of health promotion initiatives in schools can empower learners as well as other community members in terms of healthy lifestyle practices, thereby influencing their lives positively. The participants in the current study affirmed that their schools could provide learners, their parents and the broader community with accurate health promotion information. However, at the time of the study, health promotion in schools was targeted mainly through the CAPS as part of the Life Skills subject area. In this regard, the participants highlighted the potential of further enhancing health promotion in vulnerable communities through

an enriched school curriculum across the various subject areas. In further support of healthier eating practices, many learners in the participatory schools were provided with regular meals as part of the National School Nutrition Programme (NSNP) at the time of the fieldwork.

From these findings I can conclude that the participating principals, deputy principals and teachers recognised schools as important initiators of networks with external role-players, such as government departments, more specifically national departments that may support health promotion. This finding emphasises the idea that schools can achieve better positive outcomes through collaborative partnerships and through networking with, e.g., government departments. Even though the findings of the current study foreground the important collaborative partnerships amongst different role-players from the Departments of Health, Basic Education and Social Development, the modus operandi to establish such networks is not indicated in my study.

I can thus conclude that although people in the teaching profession may value governmental departments as important role-players that can support health promotion through collaborative partnerships, staff members at schools may benefit from additional guidance on exactly how to establish such networks. Furthermore, as the findings of my study do not indicate the importance of collaborative initiatives and partnerships with School Governing Bodies (SGBs), other educator associations or academic institutions, it is possible that teachers in the profession may not be fully aware of the value of all the possible role-players in their environment.

Finally, the findings of the current study indicate schools as an important link between parents and communities that can facilitate parent collaboration and involvement, which can, in turn, affect the outcome of health promotion interventions positively. In addition to learners and their families benefiting from such efforts, the wider community may experience positive change. Although parent involvement is valued as a benefit when implementing school-based interventions, the facilitation of such involvement is however often experienced as a challenge by schools. To this end, the findings of the current study point to the importance of actively involving parents and the possible role of teachers, school management and SGB's to achieve this. Against this background, I posit that innovative leadership, an informed vision and

shared responsibilities may be required when wanting to encourage parent involvement during school-based initiatives.

6.3.2 Secondary research question 2: Which food consumption practices, health promotion information and nutrition-related needs of a South African resource-constrained community may inform the development of the Win-LIFE intervention?

The Win-LIFE intervention was developed with the aim of enriching the current CAPS in Life Skills, Natural Sciences and Technology. By enriching these subjects, the intervention aimed to create an opportunity for the participating schools in the resource-constrained community near Bronkhorstspruit to become centres of care and support in terms of health promotion in the community. Principals, deputy principals, teachers, parents, university researchers and government representatives were involved in the development of the Win-LIFE intervention. As a result of the developed intervention, the three participating schools were supplied with resources that included learner workbooks, educator guides, posters, materials required for some of the practical activities, and information letters for parents. The resources that were developed can be viewed in Appendices F, G, H and I, and include an Environmental Education educator's guide and learner's workbook (2014) as well as a Nutrition Education educator's guide and learner's workbook (2014).

One of the assumptions of the Win-LIFE intervention was that knowledgeable Grade 4 to 6 learners could support healthier food-related practices amongst their parents and other community members. More specifically, we assumed that Grade 4 to 6 learners would share healthy eating practices and lifestyle habits with others once being informed of these topics, through which household food insecurity could be addressed in the participating school community. In keeping this in mind, it was important to first determine the practices and needs of the community before developing the content of the Win-LIFE intervention in order to formulate a tailor-made intervention that could be experienced as relevant and applicable by the target audience.

With regard to the food consumption practices that informed the development of the Win-LIFE intervention, I argue that it is essential to acknowledge the reasons for unhealthy food consumption practices in a community before reaching any conclusions. In this regard, the availability, accessibility and limited consumption of

healthy food in the participating school community were primarily influenced by poverty that prevailed. In the same way, the frequency of household meal consumption had an effect on the household food security of the community, and was, in turn, influenced by high levels of unemployment and poverty. Furthermore, the parental food consumption practices (influenced by knowledge and skills, household food security, employment status and poverty) that learners were exposed to affected the food consumption practices and nutritional status of the learners, which, in turn, influenced their decision making when selecting food items.

In terms of the food consumption practices of the community at the time of development of the Win-LIFE intervention, the findings of my study indicate that participants did not have access to a variety of commercial food stores, with the result that their food consumption practices included high volumes of energy-dense food that are high in carbohydrates, sugars and salts, with the community members consuming small volumes of fruits and vegetables. Learners and parents from the participating community thus primarily consumed refined grains, starchy vegetables, added fats and sweets at the time of the study. Individuals' monthly food budget was typically spent on maize, chicken and white bread. Tea with milk and sugar were regularly consumed during meals or even as substitute for a meal.

In addition, parents that were employed and travelled long distances to and from work indicated the tendency to purchase refined foods with a high fat content, as these food types are usually easy to prepare. Both learners and their parents seemed predisposed to purchase unhealthy food and snacks from informal vendors outside the three participating school buildings at prices that were affordable. As a result, at the time of the field work and development of the Win-LIFE intervention, it seemed clear that the participating community could benefit from an intervention that would focus on health promotion and could address some of the unhealthy food consumption practices that prevailed at the time. In developing the win-LIFE intervention, the necessary attention was given to the food consumption practices and related needs of the community, in an attempt to address some of these needs through the intervention that was developed.

These findings and conclusions confirm the importance of tailor-made school-based interventions that can be utilised to promote healthy eating habits, for example, in

terms of the consumption of vegetables and fruits. The value of home-based vegetable gardens is foregrounded by the findings of my study, with the reported benefit of introducing learners and community members to healthy food production practices and providing them with knowledge and skills that may be applied to address hunger and malnutrition, and create an income. Furthermore, vegetable gardens imply the possibility of providing learners with nutrition-based information and motivating them to acquire better knowledge on agriculture.

Regarding the topic of health promotion information and nutrition-related needs that informed the development of the Win-LIFE intervention, I can thus conclude that the participants wanted learners to acquire agricultural and nutritional-related knowledge and skills suited to the environment and specific living conditions of the community. By learning how to prepare and plan a vegetable garden, plant, attend to and harvest food for nutritional value and income, practice healthy and nutritional food consumption practices, attend to proper food safety and hygiene, and maintain a positive attitude and habits towards the environment, learners could potentially be empowered to deal more effectively with future life challenges. Participants confirmed that such a vision could be established through the implementation of school-based intervention (Win-LIFE), with discussions on vegetable gardens forming part of the content.

More specifically, vegetable gardens were regarded as avenues that could create opportunities for learners to discover and learn about fresh food to be able to make healthier food choices and become more nutrition-minded. Through involvement in vegetable gardens, learners could potentially gain a deeper understanding of natural systems and accumulate knowledge about sustainable food systems, thereby gaining practical experience in terms of food (vegetable) production and possibly start their own household vegetable gardens.

In conclusion, the Win-LIFE intervention was developed in such a way that learners, and by implication their parents, could gain knowledge and skills on healthy eating practices, with the aim of these informing their daily practices when producing, purchasing or consuming food. As part of their knowledge acquisition, it was important for learners to gain practical experience. Wherever possible, parents were encouraged to also become involved.

6.3.3 Secondary research question 3: How can the development and implementation of the Win-LIFE intervention enrich the South African school curriculum?

The development and implementation of the Win-LIFE intervention aimed to enrich the CAPS curriculum in Life Skills, Natural Sciences and Technology. More specifically, the Win-LIFE intervention included information that aligned with the national school curriculum, yet also added some practical skills that relate to health promotion, thereby enriching the school curriculum. I summarise the content of the Win-LIFE intervention and the way it enriched the CAPS in Tables 6.1 and 6.2.

Table 6.1: Enriching the Natural Sciences and Technology curriculum for Grades 4 to 6

LEARNING AREAS IN CAPS	THEMES OF CAPS LEARNING AREAS	INCLUSION IN THE WIN-LIFE INTERVENTION
Life and living	Plants	Learners had to identify and draw different plants in their surroundings
	Components of a plant	Learners had to label the parts of a plant after drawing the different plants in their surroundings
	What a plant needs to grow	Identification of what plants need to grow
	Different types of soil	Learners had to collect different samples of soil. The different characteristics of soil were then discussed by observing the soil samples. After that, some activities had to be completed with parents at home
Life and living	Plant life cycle	Learners completed a worksheet on a plant's life cycle
	Pollination	Not covered in the Win-LIFE intervention
	Fertilisation	Completed as part of the discussion and activity on the different types of soil
	Compost	Learners watched a video on how to make compost after which they had to complete an activity of planning their own compost heap
	Germination	Learners germinated their own seeds and kept a germination journal to monitor the process and growth of their plants
	Growth of a plant	This theme was integrated throughout all the activities and learning opportunities that formed part of the Win-LIFE intervention

Table 6.2: Enriching the Life Skills curriculum for Grades 4 to 6

LEARNING AREAS IN CAPS	THEMES OF THE CAPS LEARNING AREAS	INCLUSION IN THE WIN-LIFE INTERVENTION
Personal and social well-being	Development of the self	Interactions with peers and family members throughout the implementation of the Win-LIFE intervention
	Health and environmental responsibility	Discussions of the following topics were included: ▪ The importance of Nutrition Education ▪ Basic functions of nutrients ▪ The food pyramid ▪ Food-based guidelines for healthy eating ▪ Food safety
	Social responsibility	Teaching families about Nutrition Education throughout the implementation of the Win-LIFE intervention
Physical education	Promoting physical fitness and the use of various parts of the body	These themes were partially addressed in discussing and executing the principles underlying the preparation of a vegetable garden, planting and sustaining the vegetable garden
	Invasion, target and striking, and fielding game	
	Rhythmic movements	
	Basic field and track athletics and swimming	
	Smooth movement sequences Safety measures	
Creative arts	Visual literacy	Reading labels on food products as part of the intervention
	Creating in 2D	Throughout the implementation of the Win-LIFE intervention, learners participated in reading, drawing, creative and reflective exercises
	Creating in 3D	
	Warming up and playing	
	Improvising and creating	
	Reading, interpreting and performing	
	Appreciating and reflecting	

The Win-LIFE Nutrition and Environmental Education educator's guides and learner's workbooks (2014) were developed as resource books that could be used by teachers, learners and their families. The focus fell on CAPS-related information and CAPS-compliant classroom activities and worksheets suitable for Grades 4 to 6 learners. The learner's workbooks and educator's guides were developed with the intention of using these as supportive tools during implementation of the intervention to facilitate and integrate existing and new knowledge, skills and practices within the classroom context. The educator's guides include clear explanations and examples of activities

to include during the facilitation of the Win-LIFE intervention. The aim with the learner's workbooks was to enhance their basic understanding and knowledge on nutrition, agriculture, the environment and related topics, yet also to support learners to become healthy community members.

The Win-LIFE intervention furthermore enriched the current school curriculum by including enjoyable and practical activities when discussing existing topics included in the CAPS. These activities were developed with the intention of creating a positive learning environment where group work and experiential learning could be implemented. During the implementation of the Win-LIFE intervention, it was expected of teachers to create a positive learning environment and follow a suitable teaching approach, using appropriate teaching methods. Teachers were requested to incorporate the developed activities instead of merely relying on traditional paper and pencil exercises. The use of flashcards and posters was included and learners were, e.g., expected to write, cut and paste, complete word searches, compete as groups with other groups and learn from one another. As such, the Win-LIFE intervention was developed to create a learning environment where teachers would be able to link the existing content and activities included in the intervention in learners' daily lives.

As stated, the focus furthermore fell on group work and cooperative learning. During such activities learners were expected to work in small groups towards a shared goal. By including experiential learning methods, group work and cooperative learning when facilitating health-promotion interventions in schools, learners' knowledge and skills regarding the importance of health promotion practices may be endorsed. In addition, during the developmental phase of the Win-LIFE intervention, it was envisioned that this mode of learning might increase learners' sense of responsibility in terms of taking control for their own learning process. The decision was thus made to focus on active participation, individual attention and feedback, and the encouragement of learners to take responsibility for their own learning as part of the Win-LIFE intervention.

Finally, the Win-LIFE intervention was developed in such a way that learners would spend short periods of time working in the workbook in class, and more time on practical exercises and further application at home. This required parent involvement,

with homework activities forming part of the various lessons. Parents also had to confirm that learners had completed their homework as the intervention progressed.

6.3.4 Secondary research question 4: How can future versions of the Win-LIFE intervention be improved, based on the experiences of the teacher participants?

Participants in the current study indicated that the level of support that they experienced during implementation of the Win-LIFE intervention could be extended for future versions of the Win-LIFE intervention. Based on the findings of my study, I can thus conclude that the support by school principals, other teachers (colleagues) and researchers of the University of Pretoria may be reconsidered for future implementation of the Win-LIFE intervention. In this regard, I posit that when school principals (school management) are involved in the planning, development and implementation of school-based interventions from the onset, teachers' motivation to implement such interventions may potentially increase.

Furthermore, when teachers from all the different grades become involved in the planning, development and implementation of school-based interventions, a sense of unity and positive change that can contribute to the school community's health promotion may be present. Even though leadership and peer support at school level are considered as an important part of future versions of the Win-LIFE intervention, additional research in this area should add further insight. In terms of support by researchers, more effort can be made to regularly follow-up with teachers involved in the facilitation of the intervention, providing additional support and training when required. The option of co-facilitation of the intervention may be explored, where teachers and university researchers work alongside each other when implementing future versions of the Win-LIFE intervention.

Next, the teacher participants in my study suggested that future versions of the Win-LIFE intervention be better aligned with the sequence of topics covered in the CAPS; that the implementation schedule and time frame of implementation be reconsidered; that better parent cooperation be encouraged, and that teachers' workload be considered when planning future implementations of the intervention. More specifically, the teacher participants indicated that future versions of the Win-LIFE intervention could be more successful if implemented during a time of the year when there are fewer deadlines and requirements as per the national Annual Teaching

Plan. In this regard I posit that instead of including a prolonged process of lesson presentations by teachers only as part of the existing curriculum during school hours, supplementary curriculum enrichment and health promotion initiatives may be presented or co-presented by external facilitators, such as researchers in collaboration with classroom teachers, as suggested in the previous paragraph. In this way, teachers may not experience such initiatives as an additional task in an already full schedule that rests solely on their shoulders, yet they may still feel part of the initiative and act as agents of change.

In terms of the suggested time frame for implementation, the content of the Win-LIFE intervention can be re-aligned to fit that of CAPS better. As such, the content of the Win-LIFE intervention's workbook should be better aligned with CAPS as well as the Annual Teaching Plan presented by the Department of Education. Such an alignment can furthermore prevent repetition of content across the various year groups and may streamline the process of implementation.

Another conclusion I came to in the current study, is that better interaction between the relevant role-players, e.g. teachers, parents and community members may support the success of future versions of the Win-LIFE intervention. Parents' cooperation and expertise, together with possible resources they may contribute, can, for example, be utilised during the implementation of such interventions in future. In addition, as indicated previously, school principals have an important role to play in terms of their leadership to encourage and motivate parents to become involved in interventions such as Win-LIFE. SGBs may also fulfil a prominent role, as suggested by the participating teachers. Higher levels of parent involvement may, in turn, result in an awareness of other potential role-players and resources that members from the broader community may have access to, thereby improving the successful implementation process of the intervention. More optimal engagement with other role-players, such as the GDE, may be explored for future implementation of the intervention.

Finally, based on the conclusion that facilitated change in a school system brought about by the implementation of a health promotion intervention may result in positive change in the broader school community, I propose that all future versions of the Win-LIFE intervention take note of the specific needs and context of the target school

community before implementation. To ensure positive change in a school community, aspects of the current version of the intervention will require adaptation to suit the specific school community's needs. Such adaptations of the Win-LIFE intervention may ensure more successful implementation in future.

6.3.5 Theoretical primary research question: How can the development and implementation of the Win-LIFE intervention inform existing theory on school-based health promotion interventions?

The development and implementation of the Win-LIFE intervention inform existing theory on school-based health promotion interventions and emphasise the value of healthy eating habits, nutritious food intake and the establishment of sustainable vegetable gardens in South African resource-constrained school communities. Due to the global trend of individuals making unhealthy food choices when experiencing high levels of poverty, the development and implementation of the Win-LIFE school-based intervention provides an example of a possible way to address malnutrition in resource-constrained communities by sensitising learners and community members in terms of the prerequisites of healthy eating habits, in addition to motivating them and equipping them with some knowledge to make healthier food choices in future. The Win-LIFE intervention included Nutrition Education, as well as information on home-based vegetable gardens, which has the potential to enhance the quality of life within resource-constrained communities by promoting healthy eating habits.

In addition, the development and implementation of the Win-LIFE intervention builds on existing theory on school-based health promotion interventions that aim to enrich the national school curriculum, in this case the Life Skills, Natural Sciences and Technology curricula. More specifically, the Win-LIFE intervention enriched the Life Skills, Natural Sciences and Technology curricula by offering additional information to Grades 4 to 6 learners, thereby providing them with more in-depth knowledge and skills in terms of the mentioned content areas. The teacher's guides and learner's workbooks that were developed as part of the Win-LIFE intervention add to the repertoire of resources available to school communities in resource-constrained contexts and can be utilised for knowledge and skills acquisition in the area of healthy food- and nutrition-related practices.

The guides and workbooks include colourful layouts, and the content was developed in such a manner that it is easy for teachers to teach the content and for learners and

their parents to understand what is presented. To this end, the information included in the guides and workbooks was developed with the intention of motivating learners to participate in experiential learning activities. Furthermore, the inclusion of creative activities, group work, cooperative learning and home-based assignments provides resources that are suitable for use with primary school learners in support of better health and well-being. Based on the teachers' feedback that they utilised the Grade 4 to 6 workbooks for selected Grade 7 classes in one of the schools, I can assert that the Win-LIFE intervention makes a contribution to existing theory on school-based interventions when wanting to enrich the learning experiences of learners in the subjects Life Skills, Natural Sciences and Technology.

As stated, the Win-LIFE intervention includes experiential learning strategies, group work and cooperative learning. To this end, the findings of the current study make a contribution in the field of suitable teaching methods for primary school learners. The study demonstrates that group work can result in positive change when forming part of an enriched curriculum where learners are expected to engage meaningfully in their own learning processes, experience a sense of ownership and take responsibility for their learning.

Based on the finding that the Win-LIFE intervention was not implemented as negotiated with the teacher participants, my study provides specific guidelines for implementation of such interventions. It foregrounds the importance of considering the workload and schedules of teachers, as well as the sequence of content in the national curriculum before finalising an implementation plan. In this regard, the findings of my study indicate the possibility of involving more than only teachers when planning such a school-based intervention and emphasise the importance of continued support by various role-players during the implementation process.

In conclusion, I suggest that the following strategies be implemented during school-based interventions, such as Win-LIFE: weekly meetings with the participating school community to identify the potential impact of a planned intervention on their existing workload; regular training and support sessions with the implementers of school-based interventions on ground level; and regular reflection on school-based interventions to make adjustments to meet the school community's needs. In addition, school-home partnerships and parental involvement are regarded as important for

the successful development and implementation of school-based interventions. Such partnerships can assist parents, teachers and schools that aim to support learners and facilitate change, thereby emphasising the importance of parent involvement in school-based health promotion interventions.

6.3.6 Methodological primary research question: How can participants, within the framework of PRA, inform the development and implementation of a school-based health promotion intervention?

The inclusion of PRA-guided activities allowed me to obtain an in-depth understanding of the participants' perceptions of and beliefs regarding the planning, development and implementation of the school-based Win-LIFE intervention that had the goal of enriching the CAPS. As such, the findings of the current study confirm the value of involving role-players on ground level when generating local knowledge and thus of the importance of including participants such as school principals, teachers, parents, university researchers and government representatives when developing and implementing the process of school-based interventions.

Based on the findings of my study I propose a participatory approach whenever aiming for the active involvement of participants in the development and implementation of school-based interventions. During the development and implementation of the Win-LIFE intervention, I regarded the participants as experts because of their local knowledge and experiences in terms of the particular health-related challenges and needs of the resource-constrained community where the study was undertaken. In being valued as experts, the participants openly contributed and supported the aim of developing a school-based intervention that could facilitate change in the school community. This approach can be applied to similar contexts where the development of school-based interventions is the goal.

My findings confirm that the participants' views and ideas informed the development and implementation of the Win-LIFE intervention by means of PRA-guided activities that took on an informal nature. I included enjoyable activities in an attempt to facilitate the participants' engagement and creative contributions. Furthermore, I allowed for and encouraged participants to take the lead during the respective discussions we engaged in during data generation sessions. As the PRA-guided activities were conducted in small groups, participants freely contributed in a safe space and actively engaged in the research process. As such, based on the findings

I obtained, I posit that a PRA-guided approach can encourage participant involvement when planning and developing school-based interventions such as Win-LIFE. In the process, participants and thus role-players on ground level may gain knowledge and skills about topics such as health promotion and healthy lifestyle practices in discussion with peers whom they can identify with.

In addition to the benefits on a personal level, PRA-guided research can be of value to participants on a professional level. More specifically, in sharing ideas about the implementation of a school-based intervention with colleagues in the same profession, the participants of my study could gain ideas for improving their own practice, for example, in terms of the inclusion of experiential learning, group work and cooperative learning during teaching activities. Such ideas may equip the teacher participants with teaching methods to apply not only for the enriched curriculum but also in their daily teaching by providing learners with more opportunities to learn in a practical manner.

To summarise, the findings I outlined may contribute to the existing body of knowledge on PRA and the value of this methodological approach for the development and implementation of school-based interventions that focus on health promotion. More specifically, the findings of my study may guide other scholars in terms of important factors to consider during the development and implementation of school-based interventions by means of PRA, such as the school community's expectations, the needs of the community as well as factors affecting these needs. In addition, the participatory nature of PRA as applied methodology will acknowledge participants as experts that possess knowledge of their school community and that can share this with researchers and others whom they encounter in the systems in which they function. Finally, the use of PRA empowered the participants in the current study due to their input on aspects to consider when planning and developing the specific school-based intervention.

In terms of the finding that teachers who are involved in the planning and development of a school-based intervention may not necessarily implement the intervention as negotiated, my study makes a significant contribution. More specifically, my study underscores the importance of continued support by all relevant role-players, as well as the consideration of all possible factors that may affect the

implementation process – both on professional and personal levels. Ongoing communication can be regarded as central for researchers to remain informed of the progress of implementation yet also any needs that may arise during the process, from the facilitators' side. Furthermore, my study points to the possibility of external stakeholders (e.g. researchers) working alongside internal role-players when implementing a school-based intervention – with the purpose of both support provision and lessening the load of teachers with a busy schedule.

6.4 POTENTIAL CONTRIBUTIONS OF THE STUDY

The present study contributes to existing knowledge on school-based health promotion interventions, more specifically in terms of the way in which such interventions can encourage nutritious dietary habits, food production and food preparation practices, as well as the establishment of vegetable garden initiatives in vulnerable school communities. It also contributes to existing literature on the challenges that resource-constrained communities often face, such as poverty, malnutrition and household food insecurity, as well as the food and nutrition-related needs that may stem from such challenges. In particular, the importance of information and knowledge on health promotion and healthy lifestyle practices is underscored by the findings of my study.

Against the background of schools being in the position to contribute to the health and collective well-being of school-going learners and their families, and to address health-related barriers to learning and development by means of better education outcomes, the Win-LIFE intervention provides an example of how this may be accomplished, yet also which potential challenges should be planned for. Knowledge about and examples of how to address health-related challenges through community-specific school-based interventions can benefit both theorists and practitioners within the fields of Education, Psychology and Health Science professions.

Based on the findings that I obtained, the current study provides suggestions for the development and implementation of school-based health promotion interventions in resource-constrained communities in collaboration with teachers and schools in the community. In addition to adding insight into the possible needs and expectations that should be considered when planning and developing such interventions, the current study emphasises the health promotion role of schools, as well as the importance of

strengthening Nutrition Education and making a contribution to learning when planning and implementing school-based health promotion interventions. In addition, the findings of this study specify potential challenges that may be encountered and provide suggestions on how to address these. Schools and practitioners that work in the field may benefit from this information when planning and implementing school-based health promotion interventions.

To summarise, my study provides insight into the planning, development and implementation processes that were executed for the Win-LIFE intervention. This insight can contribute to the success of future school-based health promotion interventions. The findings of my study can also guide future adaptations of the content and proposed implementation process of the Win-LIFE (or similar) intervention, which may, in turn, benefit learners, teachers, parents and the broader community that become involved in such an intervention. As the study forms part of a broader research project on health promotion in contexts of vulnerability, it adds to the body of knowledge that has been generated as part of the broader project.

6.5   CHALLENGES AND LIMITATIONS OF THE STUDY

I identified a few challenges and limitations linked to my study. Firstly, at the start of the broader research project, the assumption was made that all three schools and participating teachers would participate as negotiated with them when implementing the Win-LIFE intervention. However, during the initial implementation process of the intervention, not all the schools and their teachers had implemented the intervention as expected. At one of the schools specifically, very little teacher and learner involvement could be observed following the implementation process. Fortunately, as three schools participated, the findings that I obtained could be confirmed. In addition, I engaged in regular discussions with the co-researchers of the broader project to ensure that my findings could be triangulated.

Secondly, as cultural differences existed between the majority of the participants and myself, I faced the challenge of not gaining an authentic understanding of the participants' contributions and the views they shared. Throughout this study I remained cautious of the possibility that I might draw conclusions based on my personal beliefs and frame of reference. As a result, I engaged in continual reflection and conversations with my supervisor to avoid this potential pitfall. In support, I kept

a reflective journal on my experiences and observations. I also conducted member checking with the participants to ensure that my findings and conclusions reflect their intentions, experiences and views. I remained aware of the possibility of my presence influencing the interactions and feedback from the participants during the PRA-guided workshops and was therefore conscious of my position as a researcher, encouraging the participants to share their perceptions and needs openly during all data generation sessions.

Next, based on the qualitative nature of my study and the research being conducted within a context-specific framework, the generalisability of the findings is limited. The purpose of this study was, however, not to generalise the findings but to gain an in-depth understanding of the development and implementation of a specific school-based health promotion intervention (Win-LIFE) in a specific resource-constrained community in South Africa. As such, I was aware from the start of the research that the findings would not be generalisable; yet, by providing a detailed description of the research process and by including a trail of evidence, the findings may be transferable to similar school community settings. This is, however, left to the judgement of the reader and future scholars that plan research in similar settings.

6.6   RECOMMENDATIONS

In this section, I include my recommendations for training, practice and future research, based on the findings of the study.

6.6.1   Recommendations for training

The findings of my study highlight the importance of involving role-players from different sectors and establishing partnerships with all these entities when developing and implementing a school-based intervention in a resource-constrained community, such as the Win-LIFE intervention. In the case of Win-LIFE, it was important to involve role-players such as school principals, teachers, parents, community members and governmental representatives that could collaborate and form partnerships with one another and with university researchers to support the health promotion of the school community.

In this regard, training in partnerships and collaborative school-based interventions may benefit school principals, teachers, parents, community members and

governmental representatives to understand the value of school-home-community partnerships and continuous communication between the role-players when wanting to facilitate change. Training in the establishment of such partnerships, the benefits of equipping parents and community members with the necessary skills to continue with health promotion efforts at home, and collaboration within the wider community through the utilisation of available services and resources from the community may assist the various role-players to take ownership and facilitate positive change in collaboration with others.

In addition to the recommendation of including aspects such as these in teacher training Programmes, continuous professional development is recommended for in-service school principals and teachers. As school principals and teachers fulfil the roles of facilitators of learning and being lifelong learners themselves, it is important for these role-players to understand their own professional development and potential role in school-based health promotion interventions. Furthermore, for the successful planning, development and implementation of school-based interventions, school principals and teachers may benefit when trained in project coordination and management, leadership, ownership, as well as the management and evaluation of school-based interventions.

In terms of the suggested characteristics of the Win-LIFE intervention, I recommend that all teachers attend refresher courses on the value of experiential learning approaches, group work, cooperative learning and the inclusion of creative and enjoyable activities and practical work when presenting new content to learners. Experiential activities such as the ones included in the Win-LIFE intervention can provide examples of this approach to teaching, with the potential positive outcomes implied. Closely related, both pre- and in-service teachers may benefit from training in or workshops on the enrichment of the national school curriculum through school-based interventions, with Win-LIFE as an example.

Therefore, the Win-LIFE intervention can serve as an example of an enriched curriculum that is structured in accordance with the CAPS for the Life Skills, Natural Sciences and Technology subjects. As the Win-LIFE intervention is a practical Programme that is supported by educator's guides and learner's workbooks, it can easily be implemented at other schools and may form part of Continuing Professional

Teacher Development (CPTD) initiatives. An extension of the Win-LIFE intervention to include the content of other subject areas is another possibility that may be explored for CPTD initiatives.

With regard to parents and parent involvement, I recommend that parents become involved in the planning, development and implementation of any school-based health promotion interventions. Parents could benefit from guidance or workshops that focus on the value of parent involvement in school-based initiatives, with the possibility of parents being trained as volunteers that can support the school, teachers and learners during such interventions. Parent guidance or parent support sessions can be arranged by schools, SGBs or external agencies that value the importance of parent involvement in school initiatives.

Finally, I recommend that the planning and facilitation of school-based health promotion strategies be integrated into the training of future educational psychologists. More specifically, a systemic approach in which different role-players are involved in the various systems in which learners interact, should be understood, with the potential effect of school-based efforts being emphasised for this purpose. Training in PRA-guided methodology can prepare future educational psychologists to fulfil this role in collaboration with teachers and school communities. To this end, the training of student educational psychologists in terms of the context and functioning of school communities is also recommended in terms of various role-players, interactions and possible dynamics. Students in other professions such as education, psychology, occupational therapy, social work and counselling may similarly benefit from training in these areas with a specific focus on the needs of resource-constrained communities, and the way in which many South Africans live.

6.6.2 Recommendations for practice

I recommend that the content of the Win-LIFE intervention be shared with all the teachers and parents of the participating schools, as well as other schools in the community in an attempt to enhance health promotion in the specific school community. I propose that the content of the intervention be used as basis for future school-based health promotion interventions – in its current format or as an adapted version. In this regard, findings of the current study can practically guide future studies that may focus on the development and implementation of school-based health

promotion interventions in resource-constrained communities. To this end, researchers in other resource-constrained school communities can potentially apply the content of the Win-LIFE intervention to similar school-based health promotion interventions in the contexts where they work.

Next, I recommend that the findings of the current study be considered and applied during the adaptation and re-implementation of the Win-LIFE intervention in resource-constrained communities in future. As the teachers who participated in the initial planning, development and implementation of the intervention shared the challenges they experienced and then made suggestions for improving the intervention in future, another round of practical implementation is advised, with a follow-up investigation in terms of the success of the re-implementation of an adapted version of the Win-LIFE intervention.

In addition, workshops can be scheduled where school principals, teachers, parents and other community members who had participated propagate awareness of the benefits of school-based initiatives, such as the Win-LIFE intervention, to neighbouring schools. Teachers, parents and community members with experience in terms of the planning, development and implementation of school-based interventions may facilitate such workshops and share their experiences with others who may become involved in similar initiatives. This may result in community members taking ownership and involving other role players from the broader community, including, e.g., professionals such as educational psychologists, social workers and counsellors with experience in project planning, leadership and collaborative partnerships.

Finally, the implementation of newly gained knowledge and skills on school- and/or home-based vegetable gardens should be encouraged in the school community that participated in the Win-LIFE project. By practically applying the ideas on vegetable gardens that were gained during data generation sessions and informal conversations, the participants in the school community that were involved may facilitate change and create opportunities to address poverty, hunger and malnutrition.

6.6.3 Recommendations for future research

Based on the findings of my study, I make the following recommendations for future research:

❖ Case study research on the feasibility and outcome of the suggestions for adaptation and future re-implementation of the Win-LIFE intervention in other schools in resource-constrained communities.

❖ Case study research on the outcome of Kolb's theory on teaching practices and learning when re-implementing the Win-LIFE intervention.

❖ Descriptive research on the extent to which learners who participated in the Win-LIFE intervention have transferred their newly gained knowledge and skills to their parents and other community members.

❖ Participatory research on ways to strengthen the involvement of parents and other role-players when planning, developing and implementing school-based health promotion interventions.

❖ Follow-up participatory research on a better alignment of the Win-LIFE intervention with the CAPS as well as the best time and way of implementation.

❖ Explanatory research on ways to support teachers during the implementation of school-based interventions.

❖ Comparative research on the potential effect of school principals on the successful implementation of school-based health promotion interventions.

❖ Comparative research on the implementation and outcome of the Win-LIFE intervention when facilitated by teacher-researcher teams in resource-constrained contexts.

6.7 CONCLUDING REFLECTIONS

Through this study, I aimed to explore and describe the development and implementation of the Win-LIFE health promotion intervention in a resource-constrained community in South Africa. The findings of the study underscore the importance of considering the needs and expectations of the target community when planning, developing and implementing a school-based health promotion intervention that aims to facilitate positive change among learners, their families and the broader community. In addition, the findings highlight the importance and value of parent involvement, collaborative partnerships and the inclusion of an experiential teaching

and learning mode, where learners may benefit from practically experiencing the theory that is discussed.

Based on the findings of my study, I can conclude that the Win-LIFE intervention was successful in enriching the CAPS and that the participatory approach that was followed supported the development and implementation of the intervention. However, the findings also point to certain challenges when implementing the intervention and involving teachers as facilitators, emphasising the importance of continuous collaboration, discussions and ongoing support. In addition, it is important not only to tailor-make an intervention according to the needs of the target audience but also to consider and accommodate the needs, preferences and circumstances of the facilitators, and involve key role-players when implementing the intervention, such as parents in the case of a school-based intervention.

LIST OF REFERENCES

Adelman, H.S. and Taylor, L. (2008). *Rebuilding for Learning: Addressing Barriers to Learning and Teaching and Re-engaging Students*. New York: Scholastic.

Adey, S., & Adey, M.S. (2020). Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4 (4): 167–180

Aggleton, P., Dennison, C., & Warwick, I. (2010). *Promoting Health and Wellbeing through Schools*. London: Routledge.

Angrosino, M.V. (2007). *Doing ethnographic observational research*. London: SAGE.

Angrosino, M.V. & Mays de Perez, K.A. (2000). Rethinking Observation: From Method to Context. In: N.K Denzin & Y.S. Lincoln (Eds.), *Handbook of Qualitative Research,* (pp. 673-702). 2nd Edition, Sage, Thousand Oaks.

Ashraf, M., Ullah, L., Shuvro, M. A., & Salma, U. (2019). Transition from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs): Blueprint of Bangladesh for Implementing the Sustainable Development Goals (SDGs) 2030. *Medicine Today*, *31*(1), 46–59.

Babbie, E. & Mouton, J. (2001). *The Practice of Social Research*. South Africa Oxford University Press, Cape Town.

Beecher, M., & Sweeny, S. M. (2008). Closing the achievement gap with curriculum enrichment and differentiation: One school's story. *Journal of Advanced Academics, 19*, 502–530.

Belansky, E. S., Romaniello, C., & Morin, C. (2006). Adapting and implementing a long-term nutrition and physical activity curriculum to a rural, low-income, biethnic community. *Journal of nutrition education and behavior*, *38*(2): 106-113.

Bender, W.N. (2004). *Learning Disabilities. Characteristics, Identification and Teaching Strategies*. 5th Edition, Pearson Education Inc., Boston.

Benecke, D.R. (2004). *Experiential learning as implemented by higher education institutions in the education and training of public relations practitioners in South Africa*. Unpublished MA dissertation. Johannesburg: University of Johannesburg

Bennett, A., Cunningham, C. & Molloy, C. (2016). An evaluation of factors which can affect the implementation of a health promotion programme under the Schools for Health in Europe framework. *Evaluation and Program Planning, 57*, 50-54.

Berg, B. L., & Lune, H. (2012). *Qualitative research methods for the social sciences.* (8th ed.). Pearson.

Bless, C., Higson-Smith, C., & Sithole, S.L. (2013). *Fundamentals of social research methods: An African perspective.* Cape town, South Africa: Juta & Company Ltd.

Boden, R., Epstein, D., & Latimer, J. (2009). Accounting for ethos or programmes for conduct? The brave new world of research ethics committees. *Sociological Review, 57*(4), 727-749.

Bogdan, R.C., & Biklen, S.K. (2003). *Qualitative Research of Education: An Introductive to Theories and Methods.* 4th Edition, Boston: Allyn and Bacon.

Bogdan, R.C., & Biklen, S.K. (2007) *Qualitative Research for Education: An Introduction to Theory and Methods.* 5th Edition, Boston: Allyn & Bacon.

Bokeloh, G.G.M., Gerster-Bentaya, S.L., & Weingärtner, R. (2009). *Achieving Food and Nutrition Security: Actions to Meet the Global Challenge.* Germany: Internationale Weiterbildung GmbH Capacity Building International (InWEnt).

Boothroyd, R.I., Fawcett, S.B., & Foster-Fishman, P.G. (2004). Community development: Enhancing the knowledge base through participatory action research. In L.A. Jason, C.B. Keys, Y. Suarez-Balcazar, R.R. Taylor, & M.I. Davis (Eds.), *Participatory community research: Theories and methods in action* (pp. 37–52). American Psychological Association.

Bowen, G.A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal, 9*, 27-40.

Butterfoss, F. D., & Kegler, M. C. (2012). *A coalition model for community action.* New Brunswick, NJ: Rutgers University Press

Brame, C.J. and Biel, R. (2015). *Setting up and facilitating group work: Using cooperative learning groups effectively.* Vanderbilt University Center for Teaching.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Braun, V., & Clarke, V. (2013). *Successful Qualitative Research: A Practical Guide for Beginners.* SAGE Publication, London.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U., & Morris, P.A. (2006). The Bioecological Model of Human Development. In R.M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 793–828). John Wiley & Sons Inc.

Butterfoss, F., & Francisco, V.T. (2004). Evaluating community partnerships and coalitions with practitioners in mind. *Health Promotion Practice*, *5*, 108–114.

Caprio, S., Daniels, S. R., Drewnowski, A., Kaufman, F. R., Palinkas, L. A., Rosenbloom, A. L., & Schwimmer, J. B. (2008). Influence of race, ethnicity and culture on childhood obesity: Implications for prevention and treatment. *Obesity, 16*(12), 2566–2577.

Cason, K.L. & Logan, B.N. (2006). Educational Intervention Improves 4th-Grade Schoolchildren's Nutrition and Physical Activity Knowledge and Behaviors. *Topics in Clinical Nutrition, 21*(3): 234-240.

Chaskin, R. (2001). Building community capacity: a definitional framework and case studies from a comprehensive community initiative. *Urban Affairs Review, 36*(3), 291–323.

Chambers, R. (1994). *Paradigm shifts and the practice of participatory research and development.* IDS Working Paper no. 2. Brighton: IDS.

Chambers, R. (2004). *Ideas for development: reflecting forwards.* IDS Working Paper, no. 238, Brighton: IDS.

Chambers, R. (2007). *From PRA to PLA and Pluralism: Practice and Theory.* IDS Working Paper, no. 286, Brighton: IDS.

Chambers, R. (2008). PRA, PLA and pluralism: Practice and theory. *The Sage handbook of action research. Participative inquiry and practice*, *2*, 297-318.

Chambers, R. (2012). *Participatory workshops: a sourcebook of 21 sets of ideas and activities.* Routledge.

Cilliers, L.J. (2018). *How school principals access and use social capital.* Unpublished MEd thesis. Pretoria: University of Pretoria.

Clark, L., & L. Zimmer. (2001). What we learned from a photographic component in a study of Latino children's health. *Field Methods 13*(4): 303–28.

Clegg, J.W., & Silfe, B.D. (2009). Research ethics in the postmod- ern context. In D. M. Mertens & P. E. Ginsberg (Eds.), *The Handbook of Social Research Ethics* (pp. 23–38). Thousand Oaks: Sage.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education*. 6th Edition. London: Routledge Falmer.

Collier, M., Keefe, E., & Hirrel, A. (2015). Listening to parents' narratives: The value of authentic experiences with children with disabilities and their families. *School Community Journal, 25*(2): 221–242.

Contento I. R. (2011). Nutrition education: linking research, theory, and practice. *Asia Pacific Journal of Clinical Nutrition*, *17*(1)*:* 176–179.

Cornwall, A., & Pratt, G. (2011). The use and abuse of participatory rural appraisal: reflections from practice. *The Agriculture, Food, & Human Values Society (AFHVS), 28*(2), 263-272.

Cottrell, S. (2011). *Critical Thinking Skills: Developing Effective Analysis and Argument*. 2nd ed. London: Palgrave Macmillan.

Creswell, J.W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Sage Publications, Thousand Oaks.

Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Sage Publications, Thousand Oaks.

Creswell, J.W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson.

Creswell, J.W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA: Sage.

Curtis, W., Murphy, M., & Shields, S. (2014). Research and Education (1st Ed.). Routledge.

Cusack, P., Cusack, F. P., McAndrew, S., McKeown, M., & Duxbury, J. (2018). An integrative review exploring the physical and psychological harm inherent in using restraint in mental health inpatient settings. *International journal of mental health nursing*, *27*(3), 1162–1176.

Darlington, E. J., Violon, N., & Jourdan, D. (2018). Implementation of health promotion programmes in schools: an approach to understand the influence of contextual factors on the process? *BMC Public Health, 18*(1), 1-17.

Darmon, N., & Drewnowski, A. (2008). Does social class predict diet quality? *The American journal of clinical nutrition*, *87*(5), 1107–1117.

Davies, M., & Macdowall, W. (2006). *Health promotion theory*. Maidenhead, England: Open University Press

Denzin, N., & Lincoln, Y. (2000). The Discipline and Practice of Qualitative Research. In: N.K Denzin & Y.S. Lincoln (Eds.), *Handbook of Qualitative Research,* (pp. 1-32). 2nd Edition, Sage, Thousand Oaks.

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The Discipline and Practice of Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 1–32). Sage Publications Ltd.

Department of Agriculture, Forestry and Fisheries. (2011). *Food security*. Pretoria, South Africa: Government Printers

Department of Agriculture, Forestry and Fisheries. (2013). *Fetsa Tlala: Integrated Food Production Initiative*. Pretoria, South Africa: Government Printers.

Department of Education (2001). *The Education White Paper 6 on Inclusive Education.* Pretoria, South Africa: Government Printers.

Department of Basic Education. (2010). *Guidelines for full-service/inclusive schools.* Pretoria, South Africa: Government Printers.

Department of Basic Education and MIET Africa. (2010). *The CSTL Programme: Care and Support for Teaching and Learning. National Support Pack, Conceptual Framework*. MIET Africa: Durban, Republic of South Africa.

Department of Basic Education. (2011). *Action plan to 2014: towards the realisation of schooling 2025.* Pretoria, South Africa: Government Printers.

Department of Basic Education. (2012). *National Curriculum and Policy Statement Grades R-12.* Pretoria, South Africa: Government Printers.

Department of Basic Education. (2014). *National School Nutrition Programme (NSNP) Annual Report 2013/2014.* Pretoria South Africa: Government Printers.

Department of Health. (1997). *White Paper for the Transformation of the Health System in South Africa*. Pretoria South Africa: Government Printers.

Department of Health & Department of Basic Education. (2012). *Integrated school health policy.* Pretoria South Africa: Government Printers.

Department of Health. (2014). *The National Health Promotion Policy and Strategy 2015-2019*. Pretoria South Africa: Government Printers.

De Lange, N., Mitchell, C., & Stuart, J. (2007). *Putting people in the picture: Visual methodologies for social change.* Amsterdam: Sense.

De Villiers, A., Senekal, M., Nel, J., Draper, C.E., Lambert, E., & Steyn, N.P. (2018) The HealthKick Study: Modifiable Lifestyle Factors in Primary Caregivers of Primary School Learners from Two School Districts in the Western Cape Province, South Africa. *Ethn Dis, 28*(2): 93-98.

Devereux, S. (2021). Social protection responses to COVID-19 in Africa. *Global Social Policy*, *21*(3), 421–447.

De Vos, A.S., Strydom, H., Fouché, C.B., & Delport, C.S.L. (2005*). Research at Grass Roots: For the Social Science Professionals.* 3rd Edition, Pretoria: Van Schaik.

DiClemente, R.J., Crosby, R.A., & Kegler, M.C. (2002). *Emerging Theories in Health Promotion Practice and Research: Strategies for Improving Public Health*. San Francisco, CA: JosseyBass.

Doak, C. M., Visscher, T. L., Renders, C. M., & Seidell, J. C. (2006). The prevention of overweight and obesity in children and adolescents: a review of interventions and programmes. *Obesity reviews : an official journal of the International Association for the Study of Obesity*, *7*(1), 111–136.

Donmoyer, R. (2002). Paradigm talk reconsidered. In V. Richardson (Ed). *The American Educational Research Association's handbook of research on teaching* , (4th Ed), Washington, DC: American Educational Research Association.

Drake, K. M., Beach, M. L., Longacre, M. R., Mackenzie, T., Titus, L. J., Rundle, A. G., & Dalton, M. A. (2012). Influence of sports, physical education, and active commuting to school on adolescent weight status. *Pediatrics*, *130*(2), 296-304.

Draper, C.E., De Villiers, A., Lambert, E.V., Fourie, J., Hill, J., Dalais, L., Abrahams, Z., & Steyn, N.P. (2010). HealthKick: a nutrition and physical activity intervention for primary schools in low income settings. *BMC Public Health, 10*:398.

Draper, C., Kolbe-Alexander, T.L., & Lambert, E. (2009). A retrospective evaluation of a community-based physical activity health promotion program. *Journal of Physical Activity & Health* 6(5), 578–588.

Drewnowski, A., & Kawachi, I. (2015). Diets and Health: How Food Decisions Are Shaped by Biology, Economics, Geography, and Social Interactions. *Big data*, *3*(3), 193–197.

Drimie, S. & Ruysenaar, S. (2010) The Integrated Food Security Strategy of South Africa: An institutional analysis, *Agrekon, 49*:3, 316-337.

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 4*(3-4), 327–350.

Durrheim, K., & Wassenaar, D. (2002). Putting design into practice: writing and evaluating research proposals. In M. Terre Blanche, & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences*, p.54-71. University of Cape Town Press, Cape Town.

Duvenage, S.S., Schönfeldt, H.C., & Kruger, R. (2010). Food product attributes guiding purchasing choice of maize meal by low-income South African consumers. *Development Southern Africa, 27*:3, p.309-331.

Du Plessis, A. & Subramanien, B. (2014). Voices of despair: Challenges of multi-grade teachers in a rural district in South Africa. *Educational Research for Social Change, 3*(1), 20-36.

Eagle, G., Hayes, G., & Sibanda, T. (2002). Standpoint Methodologies: Marxist, Feminist and Black Scholarship Perspective. In: M. Terre Blanche & K. Durrheim (Eds.). *Research in Practice: Applied Methodologies for Social Science*. Cape Town: University of Cape Town Press.

Ebersöhn, L. & Eloff, I. (2007). Lessons from postgraduate studies employing photographic methodology. In N. de Langa, C. Mitchell & J. Stuart (Eds) *Putting people in the picture: Visual methodologies for social change* (pp. 203-220). Netherlands: Sense Publishers.

Ebersöhn, L., & Ferreira, R. (2012). Rurality and resilience in education: place-based partnerships and agency to moderate time and space constraints. *Perspectives in Education*, *30*(1), 30-42.

Eisenhardt, K.M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management journal*, *32*(3), 543-576.

El Ansari, W. 2005. Collaborative research partnerships with disadvantaged communities: Challenges and potential solutions. *Journal of Public Health, 119*(9): 758–70.

El Ansari, W., Sebena, R. and Stock, C. (2013). Socio-demographic correlates of six indicators of alcohol consumption: Survey findings of students across seven

universities in England, Wales and Northern Ireland. *Archives of Public Health* *71*(1): 29-41.

El Ansari, W., Oskrochi, R., & Phillips, C. (2009). Engagement and Action for Health: The Contribution of Leaders' Collaborative Skills to Partnership Success. *Int. J. Environ. Res. Public Health 6*, 361-381.

El Ansari W., & Phillips C.J. (2001b). Partnerships, community participation and intersectoral collaboration in South Africa. *Journal of Interprofessional Care 15* (2), pp. 119–132.

Ellis, C. (2007). Telling Secrets, Revealing Lives: Relational Ethics in Research With Intimate Others. *Qualitative Inquiry*, *13*(1), 3–29.

Epstein, J. (2002). *School, family, and community partnerships: Preparing educators and improving schools.* Boulder, CO: Westview Press.

Epstein, J. (2013). *School, Family, and Community Partnerships: Preparing Educators and Improving Schools* (2nd ed.). Routledge.

Erwin, K., Blumenthal, D. S., Chapel, T., & Allwood, L. V. (2004). Building an academic–community partnership for increasing representation of minorities in the health professions. *Journal of Health Care for the Poor and Underserved, 15*, 589–602.

Faber, M., Kunneke, E., Wentzel-Viljoen, E., & Wenhold, F. (2016). Dietary Intake Assessment–24 Hour Recall. *Centre of Excellence in Food Security. DST-NRF Centre of Excellence in Food Security/South African Medical Research Council.*

Faber, M., Witten, C., & Drimie, S. (2011) Community-based agricultural interventions in the context of food and nutrition security in South Africa. *S Afr J Clin Nutr 24*: 21–30.

FAO. (2005). *Global Forest Resources Assessment 2005. Progress towards sustainable forest management.* Rome: FAO Forestry Paper 147.

FAO. (2009). *The State of Food Insecurity in the World 2009.* Rome, FAO.

FAO, IFAD, UNICEF, WFP & WHO. (2019). *The State of Food Security and Nutrition in the World 2019: Safeguarding against economic slowdowns and downturns.* Rome, FAO.

Farquhar, S.A., Parker, E.A., Schulz, A.J., & Israel, B.A. (2006). Application of qualitative methods in program planning for health promotion interventions. *Health Promotion Practice, 7*(2), 234-242.

Ferreira, R. (2006). *The relationship between coping with HIV&AIDS and the asset-based approach.* Unpublished PhD thesis. Pretoria: University of Pretoria.

Ferreira, R. & Ebersöhn, L. (2012). *Partnering for resilience.* Pretoria, South Africa: Van Schaik Publishers.

Fitzgerald, N., Damio, G., Segura-Pérez, S., & Pérez-Escamilla, R. (2008). Nutrition knowledge, food label use, and food intake patterns among Latinas with and without type 2 diabetes. *Journal of the American Dietetic Association*, *108*(6), 960-967.

Fontana, A., & Frey, J.H. (2005). The Interview: From Neutral Stance to Political Involvement. In: Denzin, N.K. and Lincoln, Y.S., Eds*., The Sage Handbook of Qualitative Research*, p. 695-727, 3rd Edition. Sage Publication, London.

Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology, 9,* 103-110.

Gain (Global Agriculture Information Network). (2005). *Retail food sector report 2005, Republic of South Africa.* Report SF5040, US Department of Agriculture: Foreign Agricultural Service, Washington, DC.

Gannon-Leary, P., Baines, S., & Wilson, R. (2006). Collaboration and partnership: a review and reflections on a national project to join up local services in England. *Journal of Interprofessional Care, 20*(6), p. 665-674.

Garrick, J. (1999). Doubting the philosophical assumptions of interpretive research. *Qualitative Studies in Education, 12*, p.147-156.

Gasson, S. (2004). Rigor in Grounded Theory Research: An Interpretive Perspective on Generating Theory from Qualitative Field Studies. In M.E. Whitman and A.B. Woszczynski (Eds.), *The Handbook of Information Systems Research*, p. 79–102. London: Idea Group Publishing.

Gavhi, F., Kuonza, L., Musekiwa, A., & Motaze, N.V. (2020). Factors associated with mortality in children under five years old hospitalized for Severe Acute Malnutrition in Limpopo province, South Africa, 2014-2018: A cross-sectional analytic study. *PLoS One, 15*(5), p. 1-13.

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods.* London: Further Education Unit

Glanz, K., Rimer, B.K, & Lewis, F. (2002). *Health behavior and health education. Theory, research and practice.* Wiley & Sons, San Fransisco.

Glanz, K., Rimer, B. K., & Viswanath, K. (2008). *Health behavior and health education: Theory, research, and practice.* San Francisco, CA: Jossey-Bass.

Goetjes, E., Pavlova, M., Hongoro, C., & Groot, W. (2021). Socioeconomic Inequalities and Obesity in South Africa - A Decomposition Analysis. *Int. J. Environ. Res. Public Health 18*,(9181): 1-13.

Goldberg, J. M., Sklad, M., Elfrink, T. R., Schreurs, K. M. G., Bohlmeijer, E. T., & Clarke, A. M. (2019). Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: A meta-analysis. *European Journal of Psychology of Education, 34*(4), 755–782.

Goldblatt, H., Karnieli-Miller, O., & Neumann, M. (2011). Sharing qualitative research findings with participants: Study experiences of methodological and ethical dilemmas. *Patient Education and Counseling, 82*(3), 389–395.

Govaerts, M., & van der Vleuten, C. P. (2013). Validity in Work-Based Assessment: Expanding Our Horizons. *Medical Education, 47*, 1164-1174.

Govender, L., Pillay, K., Siwela, M., Modi, A., & Mabhaudhi, T. (2016). Food and Nutrition Insecurity in Selected Rural Communities of KwaZulu-Natal, South Africa-Linking Human Nutrition and Agriculture. *International journal of environmental research and public health*, *14* (1): 1-21.

Govender, L., Pillay, K., Siwela, M., Modi, A.T., & Mabhaudhi, T. (2021). Assessment of the Nutritional Status of Four Selected Rural Communities in KwaZulu-Natal, South Africa. *Nutrients, 13(9)*: 1-22.

Green, L.W., & Kreuter, M.W. (1999). *Health Promotion Planning: An Educational and Ecological Approach.* Mountain View, CA: Mayfield Publishing.

Green, L.W. & Kreuter, M.W. (2005). *Health program planning: An educational and ecological approach.* 4th Edition, McGraw Hill, New York.

Greenberg, M. T., Domitrovich, C. E., Graczyk, P. A., Zins, J. E. (2005). *The Study of Implementation in School-Based Preventive Interventions: Theory, Research, and Practice.* Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

Grinnell, R.M., & Unrau, Y.A. (2008). *Social Work Research and Evaluation: Foundations of Evidence-Based Practice.* New York: Oxford University Press.

Guba, E. G. (1990). The paradigm dialog. In *Alternative Paradigms Conference, Indiana University, School of Education, San Francisco, CA, US*. Sage Publications, Inc.

Guba, E.G., & Lincoln, Y.S. (2005) Paradigmatic Controversies, Contradictions, and Emerging Confluences. In: Denzin, N.K. and Lincoln, Y.S., Eds., *The Sage Handbook of Qualitative Research,* 3rd Edition, Sage, Thousand Oaks, 191-215.

Halcomb, E.J. & Davidson, P.M. (2006). Is Verbatim Transcription of Interview Data Always Necessary? *Applied Nursing Research, 19*, 38-42.

Hamm, M.W. (2009). Principles for Framing a Healthy Food System. *Journal of hunger & environmental nutrition, 4*(3-4), 241–250.

Hammersley, M., & Atkinson, P. (1995). *Ethnography: Principles in practice.* 2nd ed. London: Routledge.

Hammersley, M., & Traianou, A. (2012). *Ethics in qualitative research: Controversies and contexts.* Los Angeles: Thousand Oaks, SAGE Publications.

Haverkamp, B.E. (2005). Ethical perspectives on qualitative research in applied psychology. *Journal of Counseling Psychology, 52*(2): 146–155.

Hendricks, M. K., & Dlamini, S. (2013). Overcoming barriers in the provision of key nutrition interventions for young children in public health system in South Africa. *Research & Policy Brief Services*, 1-12.

Henning, E., Van Rensburg, W. and Smit, B. (2004). *Finding Your Way in Qualitative Research.* Van Schaik Publishers, Pretoria.

Hill, J., Draper, C. E., De Villiers, A., Fourie, J.M., Mohamed, S., Parker, W., & Steyn, N. (2015). Promoting healthy lifestyle behaviour through the Life-Orientation curriculum: Teachers' perceptions of the HealthKick intervention. *South African Journal of Education, 35*(1), 01-09.

Hogue, A., Liddle, H.A., Singer, A., & Leckrone, J. (2005). Intervention fidelity in family-based prevention counseling for adolescent problem behaviors. *Journal of Community Psychology 33*:191– 211.

Holt, C. M., Fawcett, S. B., Schultz, J. A., Berkowitz, B., Wolff, T., & Francisco, V. T. (2013). Building community practice competencies globally through the Community Tool Box. *Global Journal of Community Psychology Practice, 4*(4), 1–8.

Horowitz, C. R., Colson, K. A., Hebert, P. L., & Lancaster, K. (2004). Barriers to buying healthy foods for people with diabetes: Evidence of environmental disparities. *Am J Public Health, 94*(9), 1549-1554.

Huberman, A.M., & Miles, M.B. (2002). *The qualitative researcher's companion*. Thousand Oaks, CA: Sage.

Hughes, G., Bennett, K. M., & Hetherington, M. M. (2004). Old and alone: barriers to healthy eating in older men living on their own. *Appetite, 43*(3), 269–276.

Husserl, E. (1965). *Phenomenology and the crisis of philosophy.* New York: Harper and Row.

Janesick, V. J. (2000). The choreography of qualitative research design. In Denzin, N.K. & Lincoln Y.S. (Eds.) *Strategies of qualitative design*, p. 46-79. SAGE, Thousand Oaks.

Johnson, B., & Lazarus, S. (2003). Building Health Promoting and Inclusive Schools in South Africa. *Journal of Prevention & Intervention in the Community, 25*(1), 81-97.

Jung, T., Huang, J., Eagan, L., & Oldenburg, D. (2019). Influence of school-based nutrition education program on healthy eating literacy and healthy food choice among primary school children. *International Journal of Health Promotion and Education*, *57*(2), 67-81.

Kamberelis, G. and Dimitriadis, G. (2011) Focus Groups: Contingent Articulations of Pedagogy, Politics and Inquiry. In: Denzin, N.K. and Lincolc, Y.S., Eds., *The SAGE Handbook of Qualitative Research,* p.545-561. Sage, Los Angeles.

Kelliher, F. (2005). Interpretivism and the pursuit of research legitimisation: An integrated approach to single case design*. Electronic Journal on Business Research Methods, 3*(2): 123-132.

Kelly, P. (2014). Intercultural comparative research: rethinking insider and outsider perspectives. *Oxford Review of Education*, *40*(2), 246–265.

Kelly, C., Kelly, L., Offner, M., & Vorland, B. (2002). Effective ways to use authentic materials with ESL/EFL students. *The internet TESL journal. 8(11)*: 249-254.

Kelly, K., & van der Riet, M. (2000). Participatory research in community settings: Processes, methods, challenges. In M. Seedat, S. Lazarus, & N. Duncan (Eds.), *Theory, method and practice in community psychology: South African and other perspectives,* (p. 2-32). Cape Town: Oxford University Press.

Kolb, D.A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.

Kolb, A. Y., & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education, 4*, 193-212.

Krueger, R.A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Kvale, S. (1996). *Interview Views: An Introduction to Qualitative Research Interviewing.* Thousand Oaks, CA: Sage Publications.

Labadarios, D., Dhansay, A., & Hendricks, M. (2008a). *The nutrition situation in South Africa: Demographic, socioeconomic, and health indicators.* Pretoria: South African Medical Research Council

Ladkin, D. (2005). The enigma of subjectivity': How might phenomenology help action researchers negotiate the relationship between 'self, 'other' and 'truth'?. *Action Research, 3*(1), 108–126.

Larson, N., & Story, M. (2009). A review of environmental influences on food choices. *Annals of behavioral medicine: a publication of the Society of Behavioral Medicine*, *38*(1*):* S56–S73.

Laurie, S. M., & Faber, M. (2008). Integrated community-based growth monitoring and vegetable focusing on crop rich in β-carotene: Project evaluation in a rural community in the Eastern Cape, South Africa. *Journal of the Science of Food and Agriculture*, *88*(12): 2093-2101.

Lather, P. (1986). Issues of Validity in Openly Ideological Research: Between a Rock and a Soft Place. *Interchange, 17*, 63-84.

Leach, F. (2003). Learning to be violent: The role of the school in developing adolescent gendered behaviour. *Compare: A Journal of Comparative and International Education*, *33*(3), 385-400.

Lee, A., Lo, A., & Li, Q. (2019). Health Promoting Schools: An Update. *Appl Health Econ Health Policy* 18, 605–623.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly, 22*(4), 557–584.

Leedy, P., & Ormrod, J. (2001). *Practical Research: Planning and Design.* 7th Edition, Merrill Prentice Hall and SAGE Publications, Upper Saddle River, NJ and Thousand Oaks, CA.

Lekies, K.S., & Sheavly, M.E. (2007). Fostering Children's Interests in Gardening. *Applied Environmental Education & Communication, 6*:1, 67-75.

Lephakga, T. (2017). Colonial institutionalisation of poverty among blacks in South Africa. *Studia Historiae Ecclesiasticae, 43*(2), 1-15

Levine, E., Olander, C., Lefebvre, C., Cusick, P., Biesiadecki, L., & McGoldrick, D. (2002). The Team Nutrition pilot study: lessons learned from implementing a comprehensive school-based intervention. *Journal of nutrition education and behavior, 34*(2), 109-116.

Lincoln, Y., & Guba, E. G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage.

Lofland, J. (1971). *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis.* Belmont, CA: Wadsworth.

Mabughi, N., & Selim, T. (2006). Poverty as Social Deprivation: A Survey. *Review of Social Economy, 64*(2), 181–204.

Maree, K., & Pieterson, V.L. (2007). First Steps in Research. In Creswell, J.W., Ebersohn, L., Eloff, I., Ferreira, R., Ivankova, N.V., Jansen, J.D., Nieuwenhuis, J., Pieterson, V.L., Plano Clark, V.L. & van der Westhuizen, C., (Eds.), *First Steps in Research Sampling,* (p. 214-223). Pretoria, South Africa: Van Schaik Publishers.

Marshall, C., & Rossman, G. B. (2011). Designing Qualitative Research (5th ed.). Thousand Oaks, CA: Sage Publications.

Martins, J. H. (2005). The household food budget of the wealthy and the poor in South Africa. *Journal of Family Ecology and Consumer Sciences, 33,* 37-45.

Matingwina, T. (2017). An Integrated Framework for Disseminating Health Information to Students in Zimbabwe. *Libri, 67,* 35 - 50.

May, J., Witten, C., & Lake, L. (2020). *South African Child Gauge 2020.* Cape Town: Children's Institute, University of Cape Town.

McMillan, J., & Schumacher, S. (2014). *Research in education: Evidence-based inquiry* (7th ed.). England: Pearson.

Mercken, L., Candel, M., Willems, P., & de Vries, H. (2007). Disentangling social selection and social influence effects on adolescent smoking: The importance of reciprocity in friendships. *Addiction, 102*(9), 1483–1492

Merriam, S.B. (1998). *Qualitative Research and Case Study Applications in Education.* San Francisco, CA: Jossey-Bass Publishers.

Merriam, S. B. (2002). *Qualitative Research in Practice: Examples For discussion and Analysis*. San Francisco, CA: Jossey-Bass Publishers.

Merriam, S., & Simpson, E. (1995). *A guide to research for educators and trainers of adults.* Florida: Kreiger.

Mertens, D.M. (1998). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches.* Thousand Oaks, CA: Sage.

Mertens, E., Deković, M., Leijten, P., Van Londen, M., & Reitz, E. (2020). Components of school-based interventions stimulating students' intrapersonal and interpersonal domains: A metaanalysis. *Clinical Child and Family Psychology Review, 23*(4), 605–631.

Sherman, J., & Muehlhoff, E. (2007). Developing a nutrition and health education program for primary schools in Zambia. *Journal of nutrition education and behavior, 39 6*, 335-42.

Miles, M.B., & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage Publications.

Mkhize, M., & Sibanda, M. (2020). A Review of Selected Studies on the Factors Associated with the Nutrition Status of Children Under the Age of Five Years in South Africa. *International journal of environmental research and public health*, *17*(21): 1-26.

Monsivais, P., Aggarwal, A., & Drewnowski, A. (2014). Time spent on home food preparation and indicators of healthy eating. *American Journal of Preventive Medicine, 47*(6), 796–802

Morrow, S.L. (2005). Quality and Trustworthiness in Qualitative Research in Counselling Psychology. *Journal of Counseling Psychology, 52*, 250-260.

Morse, J.M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1,* 1-19.

Mukamana, O., & Johri, M. (2016). What is known about school-based interventions for health promotion and their impact in developing countries? *A Scoping Review of the Literature. Health Education Research, 31*, 587-602.

Naidoo, R., Coopoo, Y., Lambert, E., & Draper, C. (2009). Impact of a primary school-based nutrition and physical activity intervention on learners in KwaZulu-Natal, South Africa: A pilot study. *South African Journal of Sports Medicine, 21*(1).

Naicker, N, Mathee, A, & Teare, J. (2015). Food insecurity in households in informal settlements in urban South Africa. *SAMJ: South African Medical Journal*, *105* (4), 268-270

Napier, C., & Oldewage-Theron, W. (2015). Dietary intake and nutritional status of adolescent girls and young women in Durban, South Africa. *Tydskrif vir Gesinsekologie en Verbruikerswetenskappe, 43*, 1-15.

Napier, C., Warriner, K., Sibiya, M.N. & Reddy, P. (2019). Nutritional status and dietary diversity of pregnant women in rural KwaZulu-Natal, South Africa. *Health SA Gesondheid* 24(0), a1114.

Nastasi, B.K., & Schensul, S.L. (2005). Contributions of qualitative research to the validity of intervention research. *Journal of School Psychology, 43*(3), 177–195.

Neuman, W.L. (2000) *Social research methods qualitative and quantitative approaches.* 4th Edition, Allyn & Bacon, Needham Heights.

Netshitenzhe, J. (2007). South Africa as a class neutral society. *Business Day Newspapers.* https://www.businesslive.co.za/bd/.

Nieuwenhuis, J. (2007). Qualitative research designs and data gathering techniques. In K. Maree (Ed.), *First steps in research* (pp. 70-92). Van Schaik.

Nguyen, K.A., De Villiers, A., Fourie, J.M., Bourne, L.T., & Hendricks, M.K. (2013). The feasibility of implementing food-based dietary guidelines in the South African primary-school curriculum. *Public Health Nutrition, 18*, 167 - 175.

Nyatuka, B.O., & Nyakan, P.O. (2015). Home-school-community partnerships: An imperative in teacher education programmes in Kenya. *International Journal of Education and Research, 3*(11): 261-272.

O'Halloran, S.A., Eksteen, G., Polayya, N., Ropertz, M., & Senekal, M. (2021). The Food Environment of Primary School Learners in a Low-to-Middle-Income Area in Cape Town, South Africa. Nutrients, *13*(6):2043.

Okeyo, A.P., Seekoe, E., de Villiers, A., Faber, M., Nel, J.H., & Steyn, N.P. (2020). The Food and Nutrition Environment at Secondary Schools in the Eastern Cape, South Africa as Reported by Learners. *Int J Environ Res Public Health, 17*(11): 1-18.

Oldewage-Theron, W.H., Dicks, E.G., & Napier, C.E. (2006). Poverty, household food insecurity and nutrition: coping strategies in an informal settlement in the Vaal Triangle, South Africa. *Public Health, 20*(9):795-80.

Oldewage-Theron, W.H., & Kruger, R. (2008). Food variety and dietary diversity as indicators of the dietary adequacy and health status of an elderly population in Sharpeville, South Africa. *J Nutr Elderly, 27*(1):101-33

Olsen, M. E., Lodwick, D. G., & Dunlap, R. E. (1992). *Viewing the world ecologically*. Boulder: Westview Press.

Onwuegbuzie, A. J., Johnson, R. B., & Collins, K. M. T. (2010). A framework for assessing legitimation in mixed research: Implications for the field of stress and coping. In K. M. T. Collins, A. J. Onwuegbuzie, & Q. G. Jiao (Eds.), *Toward a broader understanding of stress and coping: Mixed methods approaches* (pp. 3–29). IAP Information Age Publishing.

Onwuegbuzie, A.J., & Leech, N.L. (2006). Linking Research Questions to Mixed Methods Data Analysis Procedures. *The Qualitative Report, 11,* 474-498.

Orb, A., Eisenhauer, L., & Wynaden, D. (2001). Ethics in qualitative research. *Journal of Nursing Scholarship, 33*(1): 93-96.

Otang-Mbeng, W., Otunola, G.A. & Afolayan, A.J. (2017). Lifestyle factors and co-morbidities associated with obesity and overweight in Nkonkobe Municipality of the Eastern Cape, South Africa. *J Health Popul Nutr 36*(22): 1-8.

Oxfam. (2014). *Hidden hunger in South Africa. The faces of hunger and malnutrition in a food-secure nation.* UK: Oxfam.

Pallan, M., Parry, J., & Adab, P. (2012). Contextual influences on the development of obesity in children: a case study of UK South Asian communities. *Preventive medicine, 54*(3-4), 205–211.

Pandya-Wood, R. (2014). *A reflective account of the trustworthiness and authenticity of data using Lincoln and Guba's (1985) work in a PhD research study: Understanding the impact of public involvement in cancer research*, INVOLVE conference, Nottingham, UK.

Patton, M.Q. (2002). *Qualitative research and evaluation methods.* SAGE Publications.

Perez, A.M., Ayo-Yusuf, O.A., Hofman, K., Kalideen, S., Maker, A., Mokonoto, D., ... & Saloojee, Y. (2013). Establishing a health promotion and development foundation in South Africa. *South African Medical Journal, 103*(3), 147-149.

Petty, N. J., Thomson, O. P., & Stew, G. (2012). Ready for a paradigm shift? Introducing qualitative research methodologies and methods. *Manual Therapy, 17,* 378-384.

Peu, D., Mataboge, S., Ladzani, R., Wessels, L., Mostert-Wentzel, K., & Seane, N. (2015). Perceptions of educators regarding the implementation of the health promotion programme manuals for children in schools in Makapanstad, South Africa. *Curationis, 38*(2), 1-8.

Power, T. J., & Blom-Hoffman, J. (2004). The school as a venue for managing and preventing health problems: Opportunities and challenges. *Handbook of pediatric psychology in school settings*, p. 37-48.

Punch, K. (2009). *Introduction to research methods in education*. Los Angeles: Sage.

Puoane, T.P., Matwa, H., Bradley, G., & Hughes, G. (2006). Socio-cultural factors influencing food consumption patterns in the black population groups residing in black townships of South Africa. *Human Ecology, 14*: 91- 96.

Prilleltensky, I. (2005). Promoting well-being: Time for a paradigm shift in health and human services. *Scandinavian Journal of Public Health, 33*(66), 53–60.

Rallis, S.F., & Rossman, G.B. (2003) Learning in the field: An introduction to qualitative research (2nd Ed.). Thousand Oaks, CA: SAGE

Rapley, T. (2007). *Doing conversation, discourse and document analysis.* Sage Publications Ltd.

Reason, P., & Bradbury, H. (2001). *Handbook of action research: Participative inquiry and practice*. London: SAGE.

Reis, S. M. & Fogarty, E. (2006). Savoring reading, schoolwide. *Educational Leadership, 64*(2), 32–36.

Rendall-Nkosi, K., Wenhold, F., & Sibanda, N.B. (2013). *Case study of the national school nutrition programme in South Africa*. Pretoria: Report to the Department of Basic Education.

Republic of South Africa. (1996). *The South African Schools Act (Act 84 of 1996).* Pretoria, South Africa: Government Printers.

Richardson, L. (2000). Writing: A method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (2nd ed., pp. 923-948). Thousand Oaks, CA: Sage.

Richter, K., & Jooste, K. (2013). The experiences of private somatology therapists on their self-management in a private practice. *Health SA Gesondheid 18(1),* 1–9.

Ritchie, J., & Lewis, J. (2003). *Qualitative research practice: A guide for social science students and researchers.* London: Sage Publications.

Roseman M.G., Riddell M.C., & Haynes J.N. (2011). A content analysis of kindergarten-12th grade school-based nutrition Interventions: Taking advantage of pastlearning. *Journal of Nutrition Education and Behavior, 43*(1), 2–1.

Rubin, A., & Babbie, E.R. (2017). *Research methods for social work*, 9th ed. Boston, MA: Cengage Learning.

Ruel, M.T. (2001). *Can food-based strategies help reduce vitamin A and iron deficiencies: A review of recent evidence.* Food Policy Review 5. Washington: International Food Policy Research Institute (IFPRI).

Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G., & Woelm, F. (2020). *The Sustainable Development Goals and COVID-19. Sustainable Development Report 2020.* Cambridge: Cambridge University Press.

Salisbury, C., Goodall, S., Montgomery, A.A., Pickin, D. M., Edwards, S., Sampson, F., ... & Lattimer, V. (2007). Does Advanced Access improve access to primary health care? Questionnaire survey of patients. *British Journal of General Practice, 57*(541), 615-621.

Sapa. (2014, February 14). Dozens of protestors arrested in Bronkhorstspruit. *Mail & Guardian.* https://mg.co.za/article/2014-02-04-dozens-of-protesters-arrested-in-bronkhorstspruit/

Scaglioni, S., De Cosmi, V., Ciappolino, V., Parazzini, F., Brambilla, P., & Agostoni, C. (2018). Factors Influencing Children's Eating Behaviours. *Nutrients, 10*(6): 1-17.

Schofield, J. (2000). Increasing the generalizability of qualitative research. In R. Gomm (Ed.), *Case study method,* (pp. 69-97). London: Sage.

Schön, D. (1987). *Educating the Reflective Practitioner*. San Francisco, CA: Jossey-Bass.

Shisana, O., Labadarios, D., Rehle, T., Simbayi, L., Zuma, K., Dhansay, A., ... & Faber, M. (2014). *The South African National Health and Nutrition Examination Survey, 2012: SANHANES-1: The health and nutritional status of the nation.* Cape Town, HSRC Press.

Schurink, W.J., Schurink, E.M., & Poggenpoel. (1998). Focus group interviewing and audio-visual methodology in qualitative research. In A.S. De Vos. (Ed.) *Research at grass roots, a primer for the caring professions* (pp. 313-333). Pretoria: Van Schaik.

Schwandt, T.A. (2000). Three Epistemological Stances for Qualitative Inquiry: Interpretavism, Hermeneutics, and Social Constructionism, pp. 189-213. In N. K. Denzin and Y. S. Lincoln, (Eds.), *Handbook Of Qualitative Research.* 2nd Edition, Sage, Thousand Oaks.

Seale, C. (1999). Quality in Qualitative Research. *Qualitative Inquiry, 5*, 465 - 478.

Searle, J. R., & Willis, Y. S. (1995). *The construction of social reality*. New York: Simon and Schuster.

Seligman, M.E.P. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment.* Free Press.

Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5–14.

Sibanda, R. (2021). "I'm not a teacher": A case of (dis) functional parent-teacher partnerships in a South African township. *South African Journal of Education*, *41*(3): 1-13.

Silverman, D. (2004). *Qualitative Research: Theory, Method and Practice*. London: Sage Publications.

Silverman, D. (2013). *Doing qualitative research: A practical handbook*. London: Sage.

Silverman, D. (2014). Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction. London: SAGE Publications.

Shaw, W.H. (2008). *Business Ethics*. 6th Edition, Thompso Wadsworth, Belmont, CA.

Smit, B., & Fritz, E. (2008). Understanding teacher identity from a symbolic interactionist perspective: two ethnographic narratives. *South African Journal of Education, 28*, 91-101.

Stake, R. E. (2000). Case Studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 435-453). Thousand Oaks, CA: Sage.

Statistics South Africa (SSA). (2012). *Census 2011 Municipal Report - Gauteng*. Pretoria: Statistics South Africa.

Statistics South Africa (SSA). (2016). *Community Survey 2016 Results*. Pretoria: Statistics South Africa.

Steyn, N., Lambert, E., Parker, W., Mchiza, Z., & De Villiers, A. (2009). A review of school nutrition interventions globally as an evidence base for the development of the HealthKick programme in the Western Cape, South Africa. *South African Journal of Clinical Nutrition*, *22*(3), 145-152.

Stokols, D. (1995). The paradox of environmental psychology. *American Psychologist, 50*, 821–837

Stokols, D., Allen, J., & Bellingham, R.L. (1996) The Social Ecology of Health Promotion: Implications for Research and Practice. *American Journal of Health Promotion, 10,* 247- 251.

Story, M., Kaphingst, K.M., & French, S. (2006). The Role of Schools in Obesity Prevention. *Future of Children, 16*, 109-142.

Strydom, H. (2011). Ethical aspects of research in the social sciences and human service professions. In De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L., Eds., *Research at Grass Roots: For the Social Science and Human Service Professions.* 4th Edition, Van Schaik, Pretoria, 113-130.

St Leger, L. (2004). Schools, health literacy and public health: possibilities and challenges. *Health Promot Int, 16*:197– 205

Sumner, A., Hoy, C. & Ortiz-Juarez, E. (2020). *Estimates of the impact of COVID-19 on global poverty.* WIDER Working Paper 2020/43. Helsinki: UNU-WIDER.

Sumner, A., & Tribe, M. (2008). What is 'development'?. In *International development studies: Theories and methods in research and practice* (pp. 9-30). SAGE Publications Ltd,

Suzuki, L. A., Ahluwalia, M. K., Arora, A. K., & Mattis, J. S. (2007). The pond you fish in determines the fish you catch: Exploring strategies for qualitative data collection. *The Counseling Psychologist*, *35*(2), 295-327.

Taylor, M., & Jinabhai, C. C. (2001). Working with community health workers to improve nutrition in rural KwaZulu-Natal. *Development Southern Africa*, *1*, 125-140.

Taylor, P.C., & Medina, M.N.D. (2013). Educational research paradigms: From positivism to multiparadigmatic. *Journal for Meaning-Centered Education, 1,* 1-16.

Terre Blanche, M., & Durrheim, K. (2002). Interpretive Methods. In M. Terre Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for social sciences* (pp. 123–146). Cape Town: University of Cape Town Press.

Terre Blanche, M. and Kelly, K. (2002). Interpretive methods. In Terre Blanche, M. and Durrheim, K. (Eds.), *Research in practice: Applied methods for the social sciences.* Cape Town: University of Cape Town Press.

Thomas, A.B. (2004). *Research Skills for Management Studies.* Routledge, London.

Thomas, E., & Magilvy, J.K. (2011). Qualitative Rigor or Research Validity in Qualitative Research. *Journal for Specialists in Pediatric Nursing, 16*, 151-155.

Thorp, L., & Townsend, C. (2001). *Agricultural education in an elementary school: An ethnographic study of a school garden.* In Proceedings of the 28th Annual National Agricultural Education Research Conference in New Orleans, LA.

Tracy, S. J. (2010). Qualitative quality: Eight "Big-Tent" criteria for excellent qualitative research. *Qualitative Inquiry, 16*(10), 837-851.

Tracy, S.J. (2019). *Qualitative research methods: collecting evidence, crafting analysis, communicating impact* (2nd Ed). Hoboken, NJ: Wiley Blackwell.

Turunen, H., Sormunen, M., & Jourdan, D. (2017) Health Promoting Schools: A complex approach and a major means to health improvement. *Health Promotion International, 32*(2): 177–184.

United Nations Development Programme (UNDP). (2014). *The impact of social and economic inequality on economic development in South Africa.* New York: United Nations.

UNESCO. (2016). *Global Education Monitoring Report.* Washington, DC.

UNESCO, UNICEF, & World Bank. (2020). *What Have We Learnt? Overview of Findings from a Survey of Ministries of Education on National Responses to COVID-19.* Washington, DC.

UNICEF (2019). *Children, Food and Nutrition: Growing well in a changing world.* New York: UNICEF.

UNICEF, WHO, and World Bank (2021). *Levels and trends in child malnutrition: UNICEF/WHO/The World Bank Group joint child malnutrition estimates: key findings of the 2021.* Geneva: World Health Organization;

United Nations (UN). (1989). Convention on the Rights of the Child. *Treaty Series*, *1577*, 3.

United Nations (UN). (2000). *United Nations Millennium Declaration, Resolution Adopted by the General Assembly*, 18 September 2000, A/RES/55/2, available at: https://www.refworld.org/docid/3b00f4ea3.html [accessed 1 March 2022]

United Nations (UN). (2013). *The millennium development goals report 2013.* New York: United Nations.

United Nations (UN). (2018). *The 2030 Agenda and the Sustainable Development Goals: An opportunity for Latin America and the Caribbean* (LC/G.2681-P/Rev.3), Santiago, 2018.

Visser, M. (2012). Participation in community research: experiences of community researchers undertaking HIV research in South Africa. In L. Goodson & J. Phillimore (Eds.) *Community research for participation, from theory to method* (pp. 123-138). Bristol: The Policy Press.

Visser, M. & Moleko, A. (2012). *Community psychology in South Africa*. 2nd ed. Pretoria: Van Schaik Publishers.

Von Maltzahn, R. & Van der Riet, M. (2006). A critical reflection on participatory methods as an alternative mode of enquiry. *New Voices in Psychology, 2*(1):108–128.

Vorster, H.H. (2010). The link between poverty and malnutrition: A South African perspective. *Health SA Gesondheid* 15(1), p.1-6.

Wagner, E.F., Swenson, C.C., & Henggeler, S.W. (2000). Practical and methodological challenges in validating community-based interventions. *Children's Services: Social Policy, Research & Practice*, *3*(4), 211-231.

Waliczek, T.M., Bradley, J.C., & Zajicek, J.M. (2001). The Effect of School Gardens on Children's Interpersonal Relationships and Attitudes Toward School. *Horttechnology, 11*, 466-468.

Walsh, K.C. (2007). *Talking About Race: Community Dialogues and the Politics of Difference*. Chicago: University of Chicago Press

Walsh, C.M. & Van Rooyen, F.C. (2015) Household Food Security and Hunger in Rural and Urban Communities in the Free State Province, South Africa. *Ecology of Food and Nutrition, 54*:2, 118-137.

Warwick, I., Mooney, A. & Oliver, C. (2009). *National Healthy Schools Programme: Developing the Evidence Base.* Thomas Coram Research Unit: Institute of Education, University of London.

Watson-Thompson, J., Jessop, N., Hassaballa, I., Vanchy, P., Henderson, J., & Moore, C. (2020). Together Helping Reduce Youth Violence for Equity (ThrYve): Examining the development of a comprehensive multisectoral approach to youth violence prevention. *American journal of community psychology*, *66*(3-4), 244-255.

Weare, K. (2010). Mental health and social and emotional learning: Evidence, principles, tensions, balances. *Advances in School Mental Health Promotion, 3*, 17 - 5.

Welman, J.C., & Kruger, S.J. (2001). *Research Methodology: For the business and administrative sciences.* (2nd Ed.). Cape Town: Oxford University Press.

Wenhold F., Muehlhoff E., & Kruger H.S. (2016). *Nutrition for school aged children.* Edmonton: Athabasca University.

Whitehead, J., & McNiff, J. (2006). *Action research living theory.* London: SAGE Publications.

Whitman, C., & Aldinger, C. (2009). *Case Studies in Global School Health Promotion.* NY: Springer.

Williamson, O.E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of economic literature*, *38*(3), 595-613.

Williamson, C.S. (2006), Nutrition in pregnancy. *Nutrition Bulletin, 31:* 28-59.

Willig, C. (2013). *Introducing qualitative research in psychology* (3rd ed.). Open University Press.

Wing, J., & Jivan, D. (2015). Targeting composite treatment of type 2 diabetes in middle-income countries – walking a tightrope between hyperglycaemia and the dangers of hypoglycaemia. *South African Medical Journal, 106*(1), 57-61.

World Bank. (2019). *Comparability over time at the country level for international poverty measures.* Data catalog, Washington DC.

World Health Organization (WHO). (1996). *School Health Promotion - Series 5: Regional guidelines: Development of Health Promoting Schools: A Framework for Action.* WHO, Manila.

World Health Organization (WHO). (1997). *Promoting health through schools. Report of a WHO expert committee on comprehensive school health education and promotion (WHO Technical Report Series 870).* Geneva, Switzerland: WHO.

World Health Organization (WHO). (2016). *Ending childhood obesity.* Geneva: World Health Organization.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.

Yin, R.K. (2012). *Applications of case study research* (3rd ed.). Los Angeles, CA: Sage.

Young, H. (2020). *Nutrition in Africa's drylands: A conceptual framework for addressing acute malnutrition.* Boston: Feinstein International Center, Tufts University.

Zuber-Skerritt, O., & Fletcher, M. (2007). The quality of an action research thesis in social sciences. *Qual. Assur. Educ., (15)4*, 413-436.

APPENDICES

APPENDIX A: PERMISSION TO CONDUCT RESEARCH FROM THE GAUTENG DEPARTMENT OF EDUCATION (GDE)

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

GDE RESEARCH APPROVAL LETTER

Date:	29 October 2012
Validity of Research Approval:	4 February 2013 to 27 September 2013
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Suider Street
	Pretoria North
	0182
Telephone Number:	082 074 9611
Fax Number:	012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: *Approval in Respect of Request to Conduct Research*

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

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1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.
2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.
4. A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
5. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
6. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
7. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
8. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
9. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
10. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
11. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
12. On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
13. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.
14. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Mrs Faith Lindiwe Tshabalala

(Acting) Director: Knowledge Management and Research

DATE: 29 / 10 / 2012

Making education a societal priority

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

GAUTENG PROVINCE
Department Education
REPUBLIC OF SOUTH AFRICA

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	14 January 2015
Validity of Research Approval:	9 February 2015 to 2 October 2015
Previous GDE Research Approval letter reference number	D2014/309 A dated 27 Nov 2013 and D2013/223 dated 29 Oct 2012
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Suider Street; Pretoria North; 0182
Telephone / Fax Number/s:	082 074 9611; 012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter;

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2. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB.)
3. A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned;.
4. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, SGBs, teachers and learners involved. Participation is voluntary and additional remuneration will not be paid;
5. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
6. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
7. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
8. It is the researcher's responsibility to obtain written parental consent and learner;
9. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
10. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
11. On completion of the study the researcher must supply the Director: Education Research and Knowledge Management with one Hard Cover, an electronic copy and a Research Summary of the completed Research Report;
12. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;
13. Should the researcher have been involved with research at a school and/or a district/head office level, the Director and school concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Makhado
....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: .....2015/01/16................................

GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	26 November 2013
Validity of Research Approval:	10 February to 3 October 2014
Previous GDE Research Approval letter reference number	D2013/223 dated 29 October 2012
Name of Researcher:	Botha C.J.
Address of Researcher:	526 Suider Street;;
	Pretoria North
	0182
Telephone Number:	082 074 9611
Fax Number:	012 420 5511
Email address:	karien.botha@up.ac.za
Research Topic:	Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children
Number and type of schools:	THREE Primary Schools
District/s/HO	Gauteng North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

2013 / 11 / 27

The following conditions apply to GDE research. The researcher may proceed with the

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Making education a societal priority

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001
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Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

1. The District/Head Office Senior Manager/s concerned must be presented with a copy of this letter that would indicate that the said researcher/s has/have been granted permission from the Gauteng Department of Education to conduct the research study.
2. The District/Head Office Senior Manager/s must be approached separately, and in writing, for permission to involve District/Head Office Officials in the project.
3. A copy of this letter must be forwarded to the school principal and the chairperson of the School Governing Body (SGB) that would indicate that the researcher/s have been granted permission from the Gauteng Department of Education to conduct the research study.
4. A letter / document that outlines the purpose of the research and the anticipated outcomes of such research must be made available to the principals, SGBs and District/Head Office Senior Managers of the schools and districts/offices concerned, respectively.
5. The Researcher will make every effort obtain the goodwill and co-operation of all the GDE officials, principals, and chairpersons of the SGBs, teachers and learners involved. Persons who offer their co-operation will not receive additional remuneration from the Department while those that opt not to participate will not be penalised in any way.
6. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal (if at a school) and/or Director (if at a district/head office) must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.
7. Research may only commence from the second week of February and must be concluded before the beginning of the last quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.
8. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.
9. It is the researcher's responsibility to obtain written parental consent of all learners that are expected to participate in the study.
10. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
11. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research report without the written consent of each of these individuals and/or organisations.
12. On completion of the study the researcher/s must supply the Director: Knowledge Management & Research with one Hard Cover bound and an electronic copy of the research.
13. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned.
14. Should the researcher have been involved with research at a school and/or a district/head office level, the Director concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

Makhado
....

Dr David Makhado
Director: Education Research and Knowledge Management

DATE: .2013/11 / 27.................................

2

Making education a societal priority

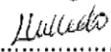**Office of the Director: Knowledge Management and Research**
9th Floor, 111 Commissioner Street, Johannesburg, 2001
P.O. Box 7710, Johannesburg, 2000 Tel: (011) 355 0506
Email: David.Makhado@gauteng.gov.za
Website: www.education.gpg.gov.za

Page | 293

GAUTENG PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	**19 February 2016**
Validity of Research Approval:	**19 February 2016 to 30 September 2016**
Previous GDE Research Approval letter reference number	**D2015 / 375 A dated 13 January 2015** **D2014 / 309 A dated 27 November 2013 and** **D2013 / 223 dated 29 October 2012**
Name of Researcher:	**Professor C.J. Botha**
Address of Researcher:	**526 Suider Street; Pretoria North; 0182**
Telephone / Fax Number/s:	**082 074 9611; 012 420 5511**
Email address:	**karien.botha@up.ac.za**
Research Topic:	**Schools as sites for social change: Facilitating adjusted behaviour in resource-constrained communities by empowering children**
Number and type of schools:	**THREE Primary Schools**
District/s/HO	**Gauteng North**

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. The District/Head Office Senior Manager/s concerned, the Principal/s and the chairperson/s of the School Governing Body (SGB.) must be presented with a copy of this letter.

2016/02/22

1

Making education a societal priority

2. The Researcher will make every effort to obtain the goodwill and co-operation of the GDE District officials, principals, SGBs, teachers, parents and learners involved. Participation _is voluntary_ and additional remuneration will not be paid;

3. Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.

4. Research may only commence from the second week of February and must be concluded by the end of the THIRD quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.

5. Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.

6. It is the researcher's responsibility to obtain written consent from the SGB/s; principal/s, educator/s, parents and learners, as applicable, before commencing with research.

7. The researcher is responsible for supplying and utilizing his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institution/s, staff and/or the office/s visited for supplying such resources.

8. The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study _may not appear_ in the research title, report or summary.

9. On completion of the study the researcher _must_ supply the Director: Education Research and Knowledge Management, with electronic copies of the Research Report, Thesis, Dissertation as well as a Research Summary (on the GDE Summary template). Failure to submit your Research Report, Thesis, Dissertation and Research Summary on completion of your studies / project – a month after graduation or project completion - may result in permission being withheld from you and your Supervisor in future.

10. The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;

11. Should the researcher have been involved with research at a school and/or a district/head office level, the Director/s and school/s concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

lucdo
....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: ...2016/02/22...............................

2

Making education a societal priority

Office of the Director: Education Research and Knowledge Management ER&KM)
9th Floor, 111 Commissioner Street, Johannesburg, 2001

Page | 295

APPENDIX B: PERMISSION TO CONDUCT RESEARCH FROM THE SCHOOL PRINCIPALS

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research at ████████████ Primary School, I hereby grant / ~~do not grant~~ you permission to do research which will involve staff members and learners at my school.

_____
Signature

15/January 2013
Date

PERMISSION TO CONDUCT RESEARCH AT ██████████

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research a ██████████ ry School, I hereby <u>grant</u> / do not grant you permission to do research which will involve staff members and learners at my school.

....   29/08/13
....
Signature   Date

PERMISSION TO CONDUCT RESEARCH AT ██████████

Dear Mrs Karien Botha

Having read the letter concerning your request to conduct research a ██████ ry School, I hereby grant / do not grant you permission to do research which will involve staff members at my school.
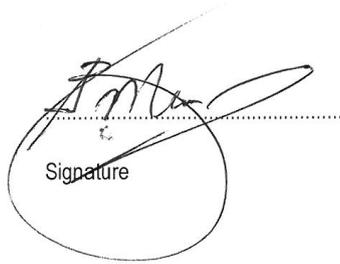
pp. ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~   26-02 - 2013
Signature   Date

APPENDIX C: SELECTED EXAMPLES OF INFORMED CONSENT LETTERS

Dear Participant

REQUEST FOR YOUR PARTICIPATION IN THE Win-LIFE INTERVENTION WORKSHOP HOSTED ON 12 APRIL 2014

Background

The *Win-LIFE Nutrition and Environmental Education Intervention Plan* (2014) is specifically designed for Gr. 4-6 learners, their families and educators as a supportive tool for facilitating and harmonizing existing and new Nutrition Education knowledge, skills and practices within the classroom environment. The purpose of the intervention is to enhance the learner's basic understanding and knowledge in terms of Nutrition Education and to support them to become 'nutritionally literate' community members. In order for learners to develop into healthy adults with sustainable food resources, one of the important needs is to empower learners to acquire appropriate agricultural and nutritional knowledge and skills to deal effectively with aspects such as: learning how to prepare and plan in terms of a vegetable garden; attending to and harvesting food of nutritional value; healthy and nutritional food consumption practices; proper food safety and hygiene; cooperative learning and relevant problem solving skills within challenging situations.

We have filled the *Win-LIFE Nutrition and Environmental Education Educator's Guide and Learner's Workbook* (2014) with valuable information for learners and their parents as well as with CAPS compliant classroom activities and worksheets. This was done in collaboration with experts in the field of agriculture, curriculum development, human nutrition, food science, physiology and educational psychology

We regard you as an expert and kindly invite you to participate in the *Win-LIFE* intervention workshop along with the three participating schools on Saturday, 12 April 2014 at the University of Pretoria, Faculty of Education (Groenkloof Campus).

Date: **12 April 2014**
Time: **8:30 – 13:30**
Venue: **Groenkloof Campus (Specific venue to be confirmed)**
RSVP: **3 April 2014 with** karien.botha@up.ac.za

During the participatory intervention workshop you will be asked to share your expert knowledge and insight in terms of the *Win-LIFE Nutrition and Environmental Education Intervention Plan* (2014) with us. Audio recordings of the sessions will be made and photographs of the interactions will be taken. Information will be treated confidentially and anonymously in the final report. Any person is free to withdraw from the workshop discussions at any stage should they wish to do so. You will be allowed full access to any of the data gathered during the data collection process, as well as the final results.

Yours sincerely,
Karien Botha
(0820749611)

To Whom It May Concern

REQUEST FOR YOUR PARTICIPATION IN Win-LIFE PROJECT WORKSHOP: 15 MARCH 2014

I am a PhD student at the University of Pretoria and currently part of an Institute for Food, Nutrition and Wellbeing project (IFNuW). This theme focuses on investigating nutrition behaviour and facilitating change to improve health and well-being. Perceptions, attitudes, values and behaviours (as they relate to food and nutrition) are explored to address hunger and hidden hunger, and to improve food and nutrition security, health, consumer well-being and environmental sustainability in the broader project.

For the purpose of my study and based on the information you may have shared during the workshop in 2913, I am developing a school-based intervention with the aim of enriching current school curriculum, namely the *Curriculum and Assessment Policy Statement* (Department of Basic Education, 2011). Following the development of this intervention, teachers (n=45) from three purposively selected schools in the Bronkhorstspruit area will be trained to implement the intervention with Grade 4-6 learners, focusing on nutrition and health-related messages, in an attempt to increase learners' knowledge, skills and attitudes pertaining to aspects such as farming skills, lifestyle and nutrition.

As an identified teacher and expert, you are kindly invited to participate in the Win-LIFE project workshop and training on <u>Saturday, 15 March 2014</u> at the University of Pretoria. Transport, breakfast, lunch and course material will be provided. Further arrangements will be communicated to the school.

During the participatory workshop you will be asked to share your knowledge with us. Audio recordings of the sessions will be made and photographs will be taken. Information provided will be treated confidentially and anonymously. Any person is free to withdraw from the discussions at any stage should he or she wish to do so. You will be allowed full access to any of the data gathered during the data collection process, as well as the final results.

Yours sincerely,

Karien Botha
karien.botha@up.ac.za
0820749611

APPENDIX D: SELECTED EXAMPLES OF THE GENERATED BASELINE INFORMATION

School A

Question 2a: What is healthy eating?

Group 1:

You must eat food with all nutrients

Vitamins

Carbohydrates

You eat clean food

Don't eat junk food

Parents' understanding of healthy eating practices. These parents demonstrated their understanding with the inclusion of nutrients, as part of healthy eating practices, and one guideline from the South African Food-Based Dietary guidelines

Group 2:

Apple

Grapes

Cakes

Burger

These parents demonstrated their understanding of healthy eating practices with examples of healthy and unhealthy food

Question 2b: How do you know this is healthy eating?

Group 1:

They always tell us at the clinic

Some workshop

Parents indicated the resources informing parents about healthy eating practices

Group 2:

They always tell us at clinic

Question 2c: What do you want to know more about healthy eating?

How can you help sick people to eat healthy food

Parents indicated their informational needs in terms of healthy eating practices

Question 3a: Where do you get your food from?

Group 1:

From the garden

From Shoprite or Spar

From Charlies Spaza

From the woman at the corner

Group 2:

You plant seedlings in the garden.

We buy at – Shoprite, Spar, Pick 'n pay

Spaza Shop

Social Worker

Fruit shop

Parents indicated their preferred choice of food supplier

Question 3b: How, who and where do you prepare your food?

Group 1:

Pour water into the pot.

When the water boils you cook the pap.

I wash everything that is going to be cooked.

We make beef stew

My mother or me and my daughter

At the kitchen

Group 2:

Boil water and pour mielie meal and you mix.

I wash everything that is going to be cooked.

Put everything in the pot.

Put the pot on the stove or use a micro oven or deep fry

My granny or my child in the kitchen.

Parents indicated their food preparation methods and the people responsible for preparing the food

Question 4a: If you buy food, where do you buy?

Group 1:

I buy food at Shoprite or tuck shop and from ladies selling in the neighbourhood

Group 2:

Town & Tuck shop

Street corner and ladies selling in neighbourhood

Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Maize meal, salt & fish oil

Sugar,tea, cremora & Rama

Chocolate and sour milk

Meat & Fresh milk

Group 2:

Pap, samp and rice

Meat – wors + chicken veal, pork

Oil – vegetable oil

Sugar

Milk – full cream and yogurt

Custard powder& jam

Sweets& flour

Parents indicated their preferred choice of products during purchasing

Question 4c: If you buy food, why do you buy specific food?

Group 1:

Food that I can eat.

Group 2:

They are healthy

It builds the body/ it is good for the body.

Parents indicated their reasons for purchasing specific products

Question 5a: If you produce food, what do you produce?

Group 1:

Potatoes, corn, onion, spinach, beans, tomato, sweet potato,

cabbage, pumpkin, carrots

Group 2:

Potatoes, spinach, tomato, onions, carrots, cabbage

Parents indicated their choice of products during food production practices

Question 5b: If you produce food, why this choice?

Group 1:

It builds the body/ good for the body and they are healthy

Group 2:

Small Space and they build the body/ they are good for the body

Parents indicated their reasons for specific food production practices

Question 5c: If you produce food, how do you produce the specific food?

Group 1:

You use chicken dung or sawdust to prepare the soil.

You water them and after two months you can eat them.

Group 2:

Prepare the garden with fertilizer

Buy seeds, fork, spade, hosepipe, and bucket

Put seeds in soil and water after two week they come out

Parents indicated production methods utilised during food production

Question 5d: What would you like to know more about food production?

Group 1:

Why do the potatoes I plant have worms?

Group 2:

I want to know how I can be a commercial farmer who supplies the market with

produce; How to make compost, how long does it take to grow a plant?; Which

season do we plant certain

Parents indicated information and skills needed during food production

School B

2a. What is healthy eating?

Group 1:

Pap and morogo

It has strength and is healthy

Brown bread

Soft porridge (mabele)

It gives us power

Parents' understanding of healthy eating practices. These parents demonstrated their understanding with the inclusion of nutrients, as part of healthy eating practices, and one guideline from the South African Food-Based Dietary guidelines

Group 2:

Is food that gives your body energy and mind stability

Orange has vitamin c. it build a healthy and strong body

Milk builds strong bones it has Calcium

Carrots is good for eye sight

Cabbage is good for a healthy skin

Fish give energy

Pap gives stamina

Question 2b: How do you know this is healthy eating?

Group 1:

It is food that is good for the body.

It fills you up for longer

It has strength it is what we eat in our homes

Parents indicated the resources informing parents about healthy eating practices

Group 2:

It has been going from generation to generation

It has been approved by nutritionist

Even the teachers talk about it

The food magazine

Question 2c: What do you want to know more about healthy eating?

Group 1:

The processing of it

What sickness does it cure?

If you're obsessed what kind of food should you eat?

The expecting mothers, what they must eat

How to cook theme in a different way & the right manner

How does it help our digestive system?

How long does it have to be stored in the fridge?

Group 2:

Potatoes pumpkin and carrots are healthy

Peas because it is food that do not have fat

Parents indicated their informational needs in terms of healthy eating practices

Question 3a: Where do you get your food from?

Group 1:

Most of our food we get it from groceries store, preferably Spar

Some we plough from our garden like tomato & spinach

Fish from the river / fishing

Group 2:

Tomatoes we find in the garden

We plant

NC Supermarket

Spar

Parents indicated their preferred choice of food supplier

Question 3b: How, who and where do you prepare your food?

Group 1:

We wash and cook them by electric stove

Before preparing check the expiry date

I prefer to cook them by myself

Most we like deep-fry

Group 2:

I cook pap and meat I use salt and water when cooking.

Myself and my eldest child

I cook on the wood fire outside

Parents indicated their food preparation methods and the people responsible for preparing the food

Question 4a. If you buy food, where do you buy?

Group 1:

We buy them from Venda's market

Farmers market

Super market

From the fisher man that sell to our homes

Shoprite

Group 2:

Tuck shop

Varuku

Sipho

Thokoza

From the women who sell at the taxi rank

Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Mielie meal

Rice

Mix portion (chicken)

Vegetable

Little bit of fruit

Red meat

Chicken gizzard

Eggs & polony

Cooking oil

Spices

Soups

In all house groceries

Group 2:

Bread

Coca cola

Papa veal

Pap and chicken feet

Parents indicated their preferred choice of food

Question 4c: If you buy food, why do you buy specific food?

Group 1:

Because we like them

We can afford them

Because they are good for the body

Question 5a: If you produce food, what do you produce?

Group 1:

We produce vegetable eg. Potato, tomato, spinach, cabbage, spring onion

We produce chickens

Group 2:

Tomatoes

Vegetables   *Parents indicated their choice of products during food production practices*

Pumpkin

Spinach

Question 5b: If you produce food, why this choice?

Group 1:

We produce them because we can eat them

We can make a living out of them

They are easy to maintain and affordable

Group 2:

 Because that is what we eat on a daily basis, it is healthy

Question 5c: If you produce food, how do you produce the specific food?

Group 1:

We start by cultivating the soil then you plant a seed, then it produce the food you want

For you plant rotten potato then they come out fresh potato

Group 2:

Turn the soil   *Parents indicated production methods utilised during food production*

You sprinkle fertilizer on the soil

You water the garden

Plant seedlings

Question 5d: What would you like to know more about food production?

Group 1:

The maintenance of the garden

plant

Group 2:

Wheat

Sunflower

Rice

I want to know how they are planted

Informational needs regarding food production

School C

Question 2a: What is healthy eating?

Group 1:

Healthy eating is about eating a balanced diet, meaning eating food that have fats, carbohydrates, vitamins, proteins. Also making sure of drinking 8 glasses of water daily.Fats: Cheese

Vitamins: Fruits and vegetables

Carbohydrates: Cornflakes

Parents' understanding of healthy eating practices.

Protein: Red meat

And not eating expired food. Not too much sweets

Group 2:

Balanced diet foods: Fruits and vegetables, Eggs & low fat milk, Livers

100% juice

Question 2b: How do you know this is healthy eating?

Group 1:

Through books – libraries, clinic pamphlets and magazines

Media – television, radio] food programs

Clinics – health promotes – health talks and home base workers – door to door campaigns

In schools – Workshop, LO teachers, Peer education

Group 2:

We have seen them from the television

We heard from the radio

We are taught from the clinic

Resources informing healthy eating practices.

We read from the magazines.

Question 2c: What do you want to know more about healthy eating?

Group 1:   *Informational needs healthy eating practices.*

Tin stuff

How long do they take to expire – 15 month / year / years

Why some of the tin stuff are expanded but the expired hasn't arrived e.g. 3/12 are expanded but 9 are still fine

Why are damaged can foods poisoners, what is the cause. Duration of shelf life before and after cooking also vegetables – how long do they have to stay in the refrigerator before and after cooking.

More information about food addictives food preservations

Disadvantages and advantages of raw salt & cooked food

Group 2:

We would like to know more about, what type of food that we can eat to prevent diseases like diabetes, high blood, cancer, heart disease.

To prevent disabilities from unborn / stillborn child and also when they are growing

Duration of food in the refrigerator before it can be eaten.

Question 3a: Where do you get your food from?

Group 1:

Garden (home made, local center, kids care center)

Street vendor (Town rank, local, door to door, vendors)

Shops (local shops – Brikor t-shop & Sipho Thokoza and tuck shops – Vukuzenzele t-shop

Towns (malls, mini market, market, super market (Checkers, Cash a Carry)

Farms such as chicken and vegetables (spinach and potatoes)

Group 2:

We get from our garden

We get from the market

We get from the Rank. Women who sell in the street

Parents indicated their preferred choice of food supplier
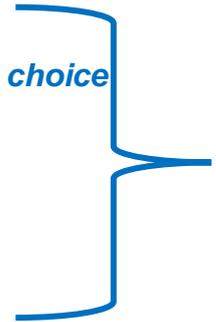
Question 3b: How, who and where do you prepare your food?

Group 1:

Chicken meat – fry onion – put my meat – pour salt and spice – wait until it's well cooked.

Who – myself – and my children

Where – gas, paraffin stove, wood, fire, electricity stove

Group 2:

We boil the vegetables and we put the salt

We boil the chicken then we put the spice on it then we fry

Most of the time I prepare food at home

We use the electricity stove

Parents indicated their food preparation methods and the people responsible for preparing the food
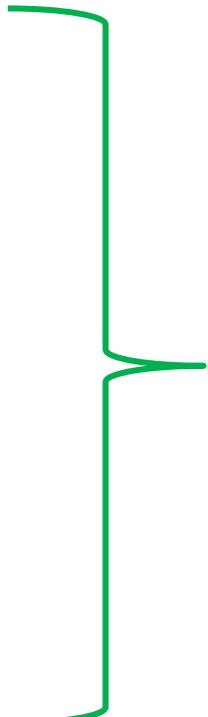
Question 4a: If you buy food, where do you buy?

Group 1:

Shoprite

Cash 'n carry

Local shops

Spar

Chicken centre

Pick 'n pay

Food hyper

Lanham Super market

Parents indicated their preferred choice of food supplier

Question 4b: If you buy food, what do you buy?

Group 1:

Tin stuff: Tin fish and Koo beans

Meat: Chicken and red meat

Vegetables (spinach, cabbage, onion, tomato, potato) & Fruits (apples, banana)

Milk

Eggs

Parents indicated their preferred choice of food

Maize meal, rice, meal rice

Fish oil

Bread – sometimes we buy flour to make amagwinya (fat koek) or dumplings (amadombolo bread)

Group 2:

We buy those that we do not have in our garden like:

Meat

Rice

Tea, Teabag, coffee, rooibos

Sugar

Fish oil

Mielie meal

Bread

Tin Fish

Egg

Salt

Beans

Question 4c: If you buy food, why do you buy specific food?

Group 1:

No name brands because they are cheap and we can afford

We buy them because we need them

Group 2:

We buy the brand from the pick 'n pay because they have fresh food

Good quality

You will never get the expired food

Question 5a: If you produce food, what do you produce?

Group 1:

Spinach, Chicken, Onion

Parents indicated their choice of products during food productionpractices

Group 2:

Spinach, Onion, Tomatoes, Green beans

Question 5b: If you produce food, why this choice?

Group 1:

It is affordable for local people and give vitamins to people

Affordable than red meat, more fresher than braai pack

Food without onion they are not nice, onion gives taste to food. Affordable you

can buy each than in a pack

Is mostly used by households cheap if you buy from homemade garden than

at shops

Group 2:

We plant those vegetables because we save money because at the market is

to cost; We plant because it is easy to plant we only need water, the sun and

fertilizer

Parents indicated production methods utilised during food production

Question 5c: If you produce food, how do you produce the specific food

Group 1:

Step 1: Cultivating of land make a land to be fertile

Step 2: Plant seeds into a bucket /soil until are show some green heads (iplanjies/seedlings) then we plant into the land

Step 3: Always pour water, clean the garden. Pour water twice a day then if it has leaves we will pour it once either in the morning or afternoon not during theday.

Step 4: Sell, cook   *Food production methods*

Group 2:

 we start by turning the soil then

we mix with fertilizer then we water the soil so that it is ready for planting.

 when we plant corn we prepare the soil and then we plant the seed the we water after 7 days without a sign of the plant it means

Question 5d: What would you like to know more about food production?

Group 1:

Other methods of food production

How to take care of the soil in order to produce good food

How to kill insects that eat plants (different methods)

Seasonal production– info on how we differential plants that are the same but planted in different season. Also other plants   *Informational   needs regarding food production*

Group 2:

I would like to know why our plants have worms.

why the plants do not grow properly and

why carrots are too small
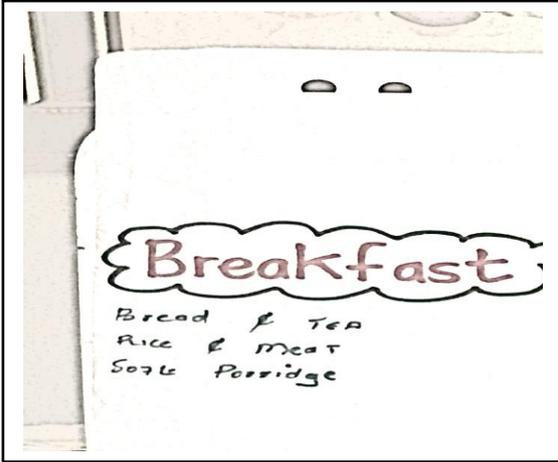
| Parent participants from School A during the data generation session indicating the food items consumed by the community for breakfast | Parent participants from School B during the data generation session indicating the food items consumed by the community for breakfast |

| Parent participant from School A during the data generation session giving feedback after their focus group discussion | Parent participants from School B during the focus group where they focused on the nutritional needs of community members |
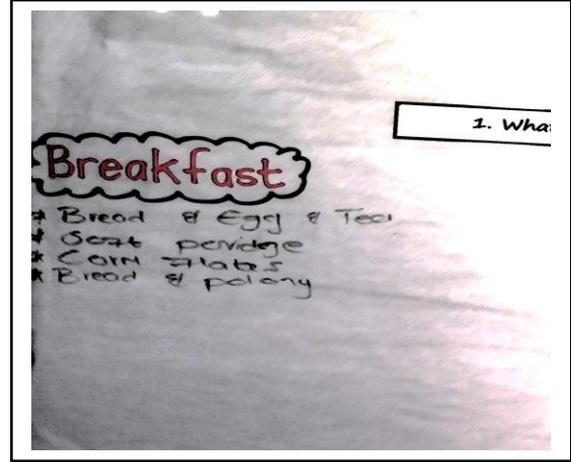
APPENDIX E: SELECTED EXAMPLES FROM THE PRA-GUIDED ACTIVITIES AND FOCUS GROUPS

Male Presenter: Afternoon

Respondents: Afternoon

The purpose of today is just to capture, again some of the work is to cross check because we have to, we have to make sure that what we report is correct and therefore we want to thank you for doing that. Um each of them will introduce themselves again. Karien will go and give us an explanation about what she expects and then we will take it from there. Thank you so much, Thank you ladies and gentlemen.

Female Presenter: Afternoon again everyone, thank you for having us here today. I don't know if you can remember when we were last here in February, Professor Ferreria and Elzane asked you some questions about <mark>what do you think the community needs in terms of food production and food choice and food preparation.</mark> *So today we just want to check the data that we gathered from, um, February, just to see if we are on the right track and we did record everything you said about the community. So that is the main reason and then we want to ask you some other questions about the curriculum. "What do you think we can include into the existing curriculum as well?", because you are the knowledgeable teachers that work with the children everyday, so we really value your input into this project extremely. Um I just want to ask you, um, because previously myself and Deliwe we worked with the parents, so I was not in the teachers group. I just want to know, You are the same teachers here today that were in February as well?*

Respondents: Yes

Female Presenter no 2: Hello Everyone

Respondents: Hello

Female Presenter no 2: Hope you are all well. You, I can see all the faces that are here today and are so happy. This will be a lot quicker here today than the last time…

As I wrote on here, just how is everyone doing? I know it's a longest term, and now it's ..far into this long term and everyone is a bit tired. Are you ok? Are you still going to be able to stay awake for today? Ok, but thank you for being here. Uh, like Prof Frasier said we know it's a busy time and they really stretching you at this stage so we not going to stretch you much longer, we just want to give a little feedback and get some feedback from you.

Respondent: Ok

Female Presenter: Ok, so the teachers that weren't here, just to bring you up to speed the last time that we met, we spoke about four questions regarding the community and we asked these questions. We asked, ==what do people in this community typically eat every day?== And then you gave us some feedback on what they eat for breakfast, and lunch and dinner and what the kids eat at school and what the parents eat when they are at home. Then we also spoke about ==where do the people buy the food? Where do the members in the community get their food, buy their food?== How do they get the food that they eat every day? And then we spoke about is there some ==specific knowledge and skills that you think the parents and the people in the community require==, um according to you, what do you think that they need to learn or ==what skills can be transferred to them, specifically when it comes to food production, food choice and food preparation.== I don't know if this is too long ago to remember this stuff still. And then the last one, the question that we asked what information, sorry that is just Deliwe she was also here the last time, she was with the parents. Um, the last question that we asked the last time was how do you think we can take the school curriculum to teach the children skills that they can then transfer to their parents. So how can we use the curriculum to give the parents the knowledge and the skills that you would as teachers feel that they require. Ok, so we not going to speak about the first two questions, um about what people eat and where the food comes from because that was very clear and it came out very clearly what you wanted to tell us and thought and we got the same answer, so we happy with that.

Right, so we just want to talk about, I'm just basically going to tell you what you told me, say yes you agree or no you don't on what we going to write up. Everyone felt that parents definitely need some information and some form of workshop when it comes to food preparation, food … and food production. So a lot of people said yes we do need information and some form of workshop, do you agree with that?

Respondents: Yes

Female Presenter no 2: Ok, then the specific things that you mentioned, that you feel that in terms of ==food production people need information on how togrow vegetables and the specific things that came out is maybe giving them some form of== starter package, maybe giving them seeds and equipment that they need to maybe start their own vegetable garden. Specific equipment because maybe a lot of them don't have the equipment that they need to grow a vegetable garden. A lot of them, a lot of you felt that people need to realise that it is something that they can do by themselves

and they need to be independent in this and that information needs to be transferred to them. Um, you felt that the community members needed information on what conditions you need for plants to grow, for vegetables to grow. They need information on soil types, specific soil types, crop rotation, fertilizers and they need some information on what are the best types of plants to grow in which season, so seasonal plants. In terms of drainage and water supply, you felt that people needed maybe knowledge skills, maybe resources, and one of the things that came up are maybe JoJo tanks, that people need that specifically. Then the other one is entrepreneurial skills, so how can we teach parents and community members, maybe take these plants that they have now grown and sell them to create an income and then also the medicinal value of some herbs and some vegetables, to maybe learn about that and that they can get a lot of what they need from the plants that they grow. So is there something else, specifically with growing vegetables that you felt you feel we missing or you happy with this information? Do you agree with this?

Female Presenter no 1: Is there something we can add to add value to the manual that we want to write?

Female Presenter no 2: So you approve?

Respondents agree

Female Presenter no 2: Like Karien said, remember that we spoke about it, right in the beginning of the year, that the aim of all of this is to come back at a later stage with manuals that teachers can use and parents can use so that they can eat more healthy, produce food, choose healthy food so that we can come back and give meaningful training and meaningful skills to the community. So if you feel that if there is anything missing from what I am mentioning you must please just tell us. Another thing in terms of food production is that you felt people can be given some information on how to breed their own livestock as well as baking. How they can bake their own bread, how they can bake their own food. I don't know if there is anything else there, so you agree with that?

Respondents agree

Female Presenter no2: Anything specific you want to add to that, not? You must just tell me if there is something you want to hand, just chip in or put up your hand, ok. Then in terms of choosing food, you indicated that a lot of the community members maybe need more information, what is healthy eating? How do I eat healthy? What does healthy eating and a healthy diet entail? Also what is a balanced diet, you

indicated that we need to tell people about food groups. We need to tell people about the required intake for the different food groups. Maybe giving parents or community members some guidance about what they have to buy when it comes to food, maybe some ideas for a menu? Giving people ideas for a menu, shame everyone looks very tired.

Respondents laugh

Female Presenter no 2: So it's not me, everyone is just tired. Shame I am sorry, we really appreciate it and I always make, the kids I teach, if they tired, jump up like this , we could try that?

Respondents laugh

Female Presenter no 2: Ok then you also felt we must tell people about the disadvantages of buying junk food and fast food and um, the nutritional value of foods,so they can check on the labels. People said we must maybe teach them how to check the labels nutritional value as well as expiry dates. Um this one came up, and I don't know if it has to do with the fact that they sometimes get old food from pick n pay, that's one of the things that you mentioned that they get food from the places so I don't know if that came up. Another thing with food, that's all with food choice. Is there anything else you feel we need to give parents and community members more guidance with when it comes with choosing food and what they eat every day:

Female Presenter 2: Ok so nothing to add to this. Ok and then the last one that we spoke about when it comes to what knowledge and skills do you think we can give to parents and the community was how to prepare food and the things that came up there was that maybe people don't have the right appliances, so that is also with the vegetable gardens where they don't have the right equipment, that they don't necessarily have what they need. Uh cooking methods came up a lot, so you said the people should know that you should not just deep fry everything, you mustn't boil it till it's dead. They must learn about different ways of cooking food, steaming it, things like that as well as the time. Like I said, don't overcook it is something that came up. Then, um, maybe giving people healthy recipes that they can follow. One that came up a lot is storage and preservation of food, that you felt people can be given skills on how to preserve food. Hygiene came up a lot, that people must rinse their food, they must wash their hand. You feel that people need guidance with that and also use of salt and spices. You mentioned that people use a lot of salt and spices and that is something that they shouldn't be doing according to you and they need

guidance with that. As well as the importance of water, um drinking water as well as getting water as part of your diet. Is there something else that you feel when it comes to preparing food that you can give more skills and knowledge to?

Respondent: ….

Female Presenter no 2: Difficult questions lately. Ok, so the main thing, the important thing is that you say, yes we agree with this or no we don't agree, this is not what we said, this is not what we feel in this community. Are you happy with what we have summarized?

Respondent: yes it's true

Female Presenter: ok good, that is what is important to us at this stage.

Male Presenter: A question outside out of that, do you know of any projects running in the community here that covers components that's there. Are there any projects being done at present that are dealing with healthy recipes, preservation, hygiene or isn't there anything that you know of?

Respondent: No

Male Presenter: No, not currently

Female Presenter: Just the projects that give food

Respondent: Yes

Female Presenter: That's what came up last time, not that they train people in these things

Respondent: No

Male Presenter: ok

Background talking.

Female Preseneter 3 (Deliwe): Says hello in African Language. I was doing the same thing as Elzane just with the parents and from what we discussed and the question I posed to the parents. What I am going to tell you know are the needs that the parents have highlighted to us in the meeting. This is about healthy eating, they want to know how long the food has to be stored in the fridge and when it comes to tin stuff, they want to know how long do they take to expire, is it just months, year or years. They want to know shelf life before and after cooking, anything that they cook before and after, how long should they stay. And with vegetables they want to know how long they have to stay in the fridge before and after cooking. The duration of food in the fridge before it can be eaten, like anything that is stored in the fridge, how long can it stay there before they can consume it and how does it help, anything that they eat,

how does it help their digestive system. They want to know what sicknesses the different foods can cure and how does it help their digestive system. And how would you know as a person, more about the types of foods you can eat to prevent diseases like diabetes, high blood, cancer and heart disease. They want to know how to cook them in a different way and in the right manner. And if you are obese, what kind of food should you eat? What must expectant mothers eat and how long must the food be kept in the fridge, kept coming up again and then why some tin stuff are expired but the expiry date has not yet arrived. For example if you buy things in twelve, in bulk, you'll find that three of the twelve has expired and the nine still ok, what causes that? Why can damaged food poison us. They also want to know more information about additives and preservatives. They also need information and skills regarding food production that is why do the potatoes they plant have worms? The want to know how they can be commission farmers who can supply market with produce and other methods of food production. They also want to know how they can take care of their soil in order to produce good food and how to kill insects that eat theirplants and how to use different methods in doing that. They want to know about seasonal production, information on how different plants that are the same, what I can explain are plants that are green, so cabbage, the food groups, how is it that how does it get planted in different times so that you always get your nutrients from that. They want to know, how it is, why do plants not grow properly. They usually get small carrots and they want to know how to maintain their gardens, how to make compost and how long it takes to grow plants. Which season do they have to plant certain things like weed and sunflower and they want to know, how they always are, how weed and sunflower are planted. That is what our parents need to know from us.

Female Presenter 1: Thank you Deliwe. Ok for the next part, Elzane is going to give feedback about the curriculum that you indicated specific stuff to us during February.

Male Respondent: Was the issue of the land raised there? Because in order for you to plant successfully you need land and space and then it has to do with the soil type as well

Female Presenter (Karien): yes the soil type is definitely in there

Male Respondent: Because how can I plant my vegetables and all that without having enough space?

Male Presenter: Ja

Female Presenter: Faces from last time, everyone was here from last time ne?

Respondents: yes (Start working from here)

Female Presenter: Ok, thank you so much for being here, you look more awake than the other teachers we worked with (laughs), they were sleeping while we were working. Cause I know the third term is a long one and a busy one and we all tired, so thank you for that. So like Karien said last time, just to remind you again my name is Elzane, um, so we spoke a bit about how are you, I know you tired but other than that I hope everyone is well. Last time that we met, we asked you to give us some feedback on what you think in terms of the community, what do people in the community typically eat everyday and you made very nice posters for us in groups saying what they eat for breakfast, lunch and supper or what you think. Then also you made posters saying where do they get this food from. And then the important questions for us were the one's where you answered what do you think what do parents and the community need to learn and what skills do they need so that they can actually prepare, produce and buy food, in a manner that is going to be best for them and health wise what are the options. So we going to look at the question you answered on knowledge and skills that you feel parents need and we also going to talk about the feedback that you gave us that you said what type of food we can incorporate in the school curriculum. So I am basically going to tell you today what you told me and then you must say yes we agree or no we don't or there's something you'd like to add then we add it. Ok, so if you have any questions you can ask otherwise we will proceed.

Background Talking

Female Presenter: The first question that we asked was the one with what, or the third question, we not going to go through those cause they were quite straightforward, what do people eat and where do they buy their food? That was very clear. With terms with regard to guidance and skills what you thought parents needed in terms of production. The things that came out was that you feel that they definitely need information about food production, that they need to be provided with some sort of workshop where they can learn about food production. Then growing vegetables was a big one that came up and the things that were brought up were maybe parents or community members could be provided with started packs cause sometimes they don't have the resources or don't have the money to start a vegetable garden, so some people said maybe starter packs and equipment can be provided to them, that they must be taught that they can do this independtly, so this is something that they

can do by themselves and that they can actually grow their own vegetables. You felt that they must learn the typeof conditions for them to grow their own vegetables and to grow their own crops. You felt that they needed information on soil types, different soil types and what you can grow in them. Crop rotation also was mentioned that they needed some information maybe on fertilizers and what fertilizers to use. What type of plants to plant in different seasons, so seasonal plants. Also in terms of water drainage, how do they go about making sure water is drained properly and so when they do the planting. And then water supply, you also thought was a problem, that people maybe need JoJo tanks or maybe need something that they can use for this water supply to their vegetable gardens. People can maybe learn entrepreneurial skills so that they can maybe market and sell their own vegetables. And lastly learn about the medicinal value of some vegetables and herbs. So those are the things that came up there. Another thing was breeding life stock, land was something mentioned that people don't necessarily have land to plant on. Also baking, with people producing their own food, people maybe need some guidance on how to bake things just maybe some classes, something that they can learn there. Is there anything else with regard to food reduction maybe you feel that you want to mention, do you maybe agree with these things? Do you feel like maybe that's what the people need?

Respondent: Yes we do agree

Female Presenter: Ok, anything else you would like to add? Not at this stage, if you think of anything later you are welcome to mention it.

Female Presenter: Then with regards to food choice you felt like people needed some guidance with regards to what is a healthy diet, what is healthy eating? A balanced diet, what is a balanced diet, they need to learn about food groups , they need knowledge on the required intake of the different food groups. what to buy, shopping lists was something that came up and also ideas for menus for everyday, that's also something that was mentioned. You also felt people need to know about the disadvantages of junk food, why they shouldn't be eating that, the nutritional value of food and also expiry dates. Ok, anything else on food choice that you feel people need guidance with? Is this what you felt, do you want to agree with it?

Respondents: Yes

Female Presenter: Do you want to mention something else ma'am?

Respondent: I think that we should know the risk that we are facing concerning the results of eating healthy food.

Female Presenter: So people almost need to know what is going to happen if I don't eat healthy food.

Respondent: If they can listen to the new like last time they were saying in five years to come most of the South Africans will be suffering from sugar diabetes

Female Presenter: So they just need to be aware of the risks of unhealthy diet and unhealthy eating

Respondent: yes

Female Presenter: So almost telling people what could go wrong and not just telling them what they should do, they must know why they must do it

Respondent: MmmHmm they must learn about the news so that they can understand the results

Female Presenter: So just what is going on in the world?

Respondent: Mm Hmm

Presenter: Ok anything else? Yes, ma'am

Respondent: We need to also stress the importance of drinking water

Female Presenter: I almost think it came up somewhere else again later but thank you, so we will talk about that one as well.

Background noise and talking while she finds her place

Female Presenter: Ok, another thing that they mentioned, different appliances and using different appliances and maybe people don't necessarily have the appliances. One that was mentioned was different cooking methods and for how long times things should be cooked for something you felt. Healthy recipes were something that came up as well. This is with regard to food preparation, so how people prepare their food. Storage and Preservation of food came up as well, hygiene was one that was mentioned quite a bit and saying people need to know to wash their hands, rinse the food and so on. Use of salt, a lot of people felt that people use too much salt and too much spices in their food and then the importance of water like you mentioned. Is there something extra that you would like to add to what people should get knowledge and skills on when it comes to the way that they prepare their food.

Respondent (male): I think the other thing is the use of cooking oils

Female Presenter (Karien): Some information about…

Respondent (male): Ja some information on different types of cooking oil cause some they go for the cheapest and sometimes it's not healthy for you

Female Presenter: Because the cooking methods, some people mentioned they mustn't deep fry their food but they didn't say people must look at the different type of oil advise, that's a nice one. So the types of oils. Yes ma'am

Respondent (female): Under the storage of food, some people are not aware that even if they food can be stored in the refrigerator, even if it stays there for a long time it changes and it becomes not ok. So they think that if it is in the refrigerator, no matter how long it is ok

Female Presenter: Ok so just adding on the storage and earlier we mentioned expiry dates and food can still expire just so that people make sure when they put things in the fridge. Ok, so then, anything else then? Ok so putting things in the fridge that also has an expiry date. Ok anything else?

Then the next question that we looked at was where in the different learning areas do you think you can take what the parents need to know, knowledge and skills, how can we use the curriculum or different subjects to teach this to the children so that they can take that knowledge to their parents at home. A lot of the things that you mentioned here is already part of the syllabus so when we go through it, I want you to try and think of things that aren't in the syllabus that you think we can do with the children so that parents can learn knowledge and skills about food choices and preparation at home as well so they can take that knowledge home to their parents. So maybe if you want to, if you think of things that maybe aren't in the syllabus already.

Ok so with Natural Science people mentioned that children can learn about seasonal plants, chicken farming, growing plants and plant types, the parts of plants that we eat, soil types, ecosystems, food pyramids, nutrition and pest control. Ok, anything under natural science you want to mention.

Ok I think I will go through all of them quickly and if you think of anything else maybe raise your hand then at the end and we can talk about it. Technology you mentioned that they can learn about equipment that they use maybe in the kitchen or wherever when it comes to using food, preserving and processing food. Packaging or storage of food, cooking methods and different cooking methods and then caring for the environment. With Languages, ideas that came up, was that we could use food related themes in the classroom, they can work with recipes in the classroom, nouns related to food, the uses of water, poems related to food, communication skills so that they can communicate what they have learnt in the class outside of the classroom.

They can learn about HIV/AIDS, food labels and you mentioned comprehension tests about food and nutrition and they can learn a bit about entrepreneurship in the languages. Under Mathematics you mentioned measurement, counting different food groups, we can use ratio to teach them about food groups and then cooking time. In EMS, economic wants and needs, four factor production, entrepreneurship, advertising, budgeting or saving, saving food or water and opportunity costs. Life Skills diet, food groups, refusal or assertiveness skills, exercise, hygiene, physical education and useful plants. Then Arts and Culture, traditional food, painting or sculptures about food and nutrition, creative beddings at the school, maybe at the garden, the colours of food can be used or explained and maybe drama or song on healthy eating. Then the last subject, Social Skills, types of farming; climate; different climates; soil types; learning about water; using water; global warming; different types of crops; indigenous food and food from different countries, those were all the things that were mentioned under the subjects. Is there something else that you can think of under a specific, you don't have to be a maths teacher to give maths suggestions or so, you can give suggestions about any subject, how you feel we can teach them about.

Female Respondent: The other thing is the learners need to learn about the self made fertilizers, like the compost. And during our times, we were having a competition, the schools were competing with the vegetables that they planted in their schools. They were having the beetroot ….(African language spoken) where the other schools, we go to the completion where they be judging which vegetables are best and the learners will have learnt they we have won because we did this and this and this. So the information can be transferred back to the community.

Female Presenter: Ok, so do they have the competition?

Female Respondent: Yes we did have, now we don't have competition in our curricular but when we were school kids we would have school competition, plant the vegetables at schools and there would come a time when we were going to compete with the vegetables and then they would check and tell you, "yours is having a problem, it seems your compost was not ok and so on and so on". They giving us the explanation

Female Presenter: That's nice, then they can learn about gardening about what works and doesn't

Female Respondent: Yes, then when they say we go and plant, we plant and we have the knowledge. We find ourselves without the teacher

Female Presenter: They can maybe do that in one of the subjects if there is extra time, ok. Any other ideas?

Male Presenter: While we are switching, are the cooking teams aware of the different menus that's on the website of the National School Feeding Schemes, for schools that the national department has made available? Of all the different menus that are there. You know about that or not? And next question, do you think there is a need for parents to be informed of different cooking menus, cooking courses or whatever?

Respondents: Yes

Male Presenter: There is a need for that

Male Respondent: A problem will be both of the parents aren't working, it will be the problem of getting those food, but I think if they have the knowledge, how they find that they will cook them.

Female Presenter (Deliwe): Good afternoon. Ok I am working with the team but I was working with parents when I was here. So I am going to share the feedback that I got from the parents, what they think they need to be. The information about healthy eating, they want to know how long does it take to store food in a fridge. This is what you highlighted, that they need to understand that the food sometimes does expire and they need to know a lot about tin stuff, how long do they take, how long does it take for that tin stuff to expire? And the duration of stuff, after and before cooking. Before cooking food and after cooking food, for how long can the food be edible? And about vegetables, they want to know how long they have to stay in the fridge before and after cooking. The duration of food in the fridge before it can be eaten, like raw food, your frozen veggies and stuff like that, how long must it stay in the fridge before you can eat it. And then how long does it help? They would like to know more about how does it help with our digestive system? How does the food help with our digestive system? What kind of sickness does the food they eat cure? How does it help our digestive system the type of food that we can eat to prevent diseases like diabetes, high blood pressure, cancer and heart disease. They also want to know how do they cook the food in different ways and in the right way. They want to know if a person is obese, what kind of food should that person eat? And then what must expectant mothers eat? This one is repeating itself, it is coming over again, they need to know how long must the food be in the fridge and why some of the tin stuff is expired but

the expiry date isn't been reached. When you buy them in the shops, some of them has expanded, why is It so? They want to know why that happens. Why are damaged can food piousness, they want to know why damaged can foods are piousness? They want more information about additives and preservatives. They need information and skills required regarding food production. And they want to know why do the potatoes they plant have worms sometimes. They want to know how they can be commercial famers where they can supply the marker with produce and they want to know other methods of food production. They also want to know how to take care of the soil in order to produce good food and how to kill insects that kill plants and they need to know different methods of doing that. They want to know more about seasonal production, on how different plants are the same can be planted at different times. For example if you are using your different greens, your cabbage, your broccoli which one must you plant when you do crop rotation. They want to know why do plants not grow properly and why are their carrots so small, why is their produce so small. And the maintenance of the garden, how do they maintain the garden, how do they make compost and how long does it take to grow a plant? And in which season do we plant specific plants, for example, weed, sunflower and they want to know how they are actually planted. So that is all the parents need from the manual.

Female Presenter : Is there anything else that you need, that you thought of while Deliwe was speaking, that you thought of?

Male Respondent: I think they should get information on how to acquire the land and how big, then maybe checking the type of soil in the land

Female Presneter: Ok, we will add that in

Female Presenter: I think what was nice that as the teacher you mentioned most of this stuff and this is what the parents gave us, I think that is a nice thing to see what you view of the parents what their needs and knowledge skills are quiet accurate so it means you know the people that you work with.

Female Presenter: Ladies and gentlemen, thank you so much for your time. We just need your names and your surnames please and we thank you and will see you again. Thank you for helping us with this project.

Respondents: Ok, thanks

Male Presenter: Ladies and gentlemen thank you so much, we appreciate it and thanks, we appreciate cause next week, week after next the school closes and we can't work in the fourth quarter, then the Department said no cause you busy with

exams and all the other stuff. If you want to take some more, something to eat, um more than welcome, help yourself and thank you. And for the participants and researchers, thank you so much for your caring and hard work.

This programme must be informative…Learners must actually learn the correct facts in order for them to tell their parents and other siblings about health and healthy food (FG, 7 April 2014, School A, TP 6).

Participants from School B confirmed this view by saying: *The programme must be educative and very informative to everyone. Not only to learners but also their parents. Both must learn from this programme and must actually be able to use what they have learnt* (FG, 7 April 2014, School B, TP 2).

These perceptions were validated by teacher participants from School C, who similarly stated: *What I envision for this programme, is that everyone who is involved must acquire knowledge on how to eat a balanced meal and other facts about healthy food at their homes* (FG, 7 April 2014, School C, TP 4).

Another participant from School B shared this view by saying: *This programme must preferably contain a lot of valuable information for parents and learners, even for us as educators,* and *The programme must be interesting … one must be able to learn so much from it and it must be easy to use the information in your daily life* (FN, 7 April 2014).

Participants from School A emphasised such integration with reference to the Win-LIFE intervention, by saying: *It must integrate a lot of our Natural Sciences and Technology Grade 4 curriculum and content. That will make it so much easier for me as an educator to teach them* (FG, 7 April 2014, School A, TP 12).

2a. What is healthy eating?

You must eat food
with all nutrients
Vitamins
Carbohydrates
You eat clean food
Don't eat junk food

School A

Ideas on healthy eating practices within the resource-constrained community

2b. How do you know this is healthy eating?

They always tell us at the clinic
Some workshop

2a. What is healthy eating?

Apple
Grapes
Cakes
Bugs

2b. How do you know this is healthy eating?

They always tell us at Clinic

School: A

Ideas on healthy eating practices within the resource-constrained community

2c. What do you want to know more about Healthy eating?

- WE WOULD LIKE TO KNOW MORE ABOUT, WHAT TYPE OF FOOD THAT WE CAN EAT # TO PREVENT DISEASES LIKE: DIABETICE, HIGH BLOOD, CANCER, HEART DISEASE

- TO PREVENT DISABILITIES FROM UNBORN/STILL BORN CHILD. & ALSO WHEN THEY ARE GROWING

-

- DURATION OF FOOD IN THE REFRIGERATOR BEFORE CAN BE EATEN.

| INITIAL WORKSHOP FEBRUARY 2013 | TRAINING AT UP APRIL 2014 | IMPLEMENTATION AT THE SCHOOL AUGUST 2014 | IMPLEMENTATION BY UP JULY 2015 |

WHAT DID YOU LIKE ABOUT THIS?

→ To be environmental sensitive.

→ To look after our environment and to keep it clean.

→ It makes us aware that clean environment creates healthy life and living

→ Inputs and Outputs about the Programme

→ The brainstorming of what kind of pictures should be included in the Programme to more interesting.

→ Group work was encouraging because we shared information and ideas.

→ Some of the topics in the Programme correlated with the themes in our learning areas.

→ It allowed us to do Practical investigation successfully

→ Our school was chosen as a benchmark for the programme

→ It allows our learners to interact with the programme organizers.

→ It gave the opportunity for our learners to learn more about nutrition education.

WHAT WAS CHALLENGING?

→ Time frame was the most challenging experience

→ We couldn't disseminate information about our environment to our satisfaction.

→ Not enough time was given for more information and ideas about environmental issues.

→ Time frame because some of the topics couldn't be infuse in our lessons because the related themes were overdued.

→ Periods allocation was challenging eg. The periods were unevenly spread

→ Time frame was challenging more especially on Fridays.

→ Learners who are using common transport

WHAT COULD WE HAVE DONE DIFFERENTLY?

→ The programme should have been introduced before the actual starting time to allow us to practically infuse it to our learning areas and learners

→ Training should have been taken place at least 4 Saturdays so that more information can be disseminated.

→ If the programme organizers should have come before the actual implementation time.

→ The programme should have been started one hour before the School knocks off.

→ To allow learners practically take care of their health and the food they should eat.

→ If time allowed they have visited some few homes to see how they live.

ENVIRONMENTAL

WHAT DID YOU LIKE ABOUT THIS?

* Different types of soil.
* Planting Seeds →
* How to do/make their own small Garden at school /at home.

-New methods of teaching our learners about environmental issues and nutrition
-Using more pictures was exciting

WHAT WAS CHALLENGING?

* Learners couldn't differentiate soil types.
* Challenge of using cotton wool
* Others complained of small sites at their homes for gardening.

NONE, BECAUSE WE ENJOYED OURSELVES AND LEARNT NEW THINGS

WHAT COULD WE HAVE DONE DIFFERENTLY?

-Provide more Trainings/Workshop
-Training/Workshop for Parents
- Have Facilitators to do Follow-ups on Teachers

-Introduce/Invited us at the beginning of the year (Term 1)
-Involve GDE NS TECH and Life Skills Facilitators

5d. What would you like to know more about food production?

* The maintenance of the garden
* How to make a compose
* How long does it take to grow a plant
* Which season do we plant certain plant

APPENDIX F: NUTRITION EDUCATION – EDUCATOR'S GUIDE

APPENDIX G: NUTRITION EDUCATION – LEARNER'S WORKBOOK

APPENDIX H: ENVIRONMENTAL EDUCATION – EDUCATOR'S GUIDE

APPENDIX I:ENVIRONMENTAL EDUCATION – LEARNER'S WORKBOOK

APPENDIX J: EXAMPLES OF FIELD NOTES

Visit 1 – School A

Zithobeni has no spar, shoprite and Pick-an-Pay

Rama= butter (margarine)

How do price, quality and availability influence food choices

Reasons for vegetable gardens

Influence of question 1?

What can sick people eat to help them? As well as children and elderly?

Kind of sickness?? HIV, marasmus

Preference?

Plant/buy [plant is cheaper & more available]

Prefer to grow their own spinach

very expensive to go to town with a taxi (R32 to go to town & back)

quantity is small

Quality: good, clean quality = expensive

When you have lots of produce what can you do with extra food?

Give some to the orphanage and people living in shacks

Zithobeni= No take a ways only 'Sphahlo'(same as bunny chow)

Porridge: 7h30 at school in the mornings

Pap & fish & vegetable/ samp beans or rice with pea soup, butternut & pumpkin

After school: orphans eat before they go home; sometimes fruit

What food do they bring from home? Bread with polony, milk, juice & snack (chips, sweets, fruit)

'Some people give their children money because some ladies sell their things outside the school'

'Also sell food like pap and or rice and soup'

Only 5 ladies working in the kitchen currently: contract to and they do not get paid for the work

Also want to learn more about 'how to cook and bake nice food?'

'Want to learn more about cooking'

Visit 1: School B

Tea with sugar (usually black, but sometimes with cremora)

Concentrated juice ("Wild Island") mixed with water

Want more information about:

-bloatedness

-constipation

-what must expectant mothers eat

-If you are obese, what are suppose to eat

-food that cures cancer

-How to cook in different ways

Question 2b (we added TV and clinic)

Go to town (Spar) and plant self

Go fishing at Bronkhorstspruit dam ('karp')

Use gas stoves and electric stoves, some microwave ovens

Sometimes cook on fire outside usually pap, meat and soup

Deep-fry – usually chicken, potato

Prefer to plant cabbage & potatoes

Buy their food from the 'Farmer Market' on weekends and 'Sipho Thokoza' (local supermarket)

Want to know more about certain plants: watermelon, mealies & pumpkin

Participants indicated several aspects that they require more knowledge & information on

-the maintenance of the garden

-how to make compost

-which seasons do we plant specific food?

-how to plant wheat, sunflower & rice?

They prefer to produce their own food because it is affordable & easy to maintain.

Visit 1: School C

Prefer tin fish (Lucky Star) and cabbage

Breakfast: they prefer Rama on bread and sometimes porridge with sugar

Use fish oil for cooking

Like tomato & onion

For lunch we prefer beans

Struggled with question 2c- we gave them example

Want to grow the following in the vegetable gardens tomatoes, onions, spinach, beetroot and cabbage

'Mkhozi'= women who sell dry food & mealies

In terms of healthy eating the participants indicated:

"We would like to know more about what type of food that we eat to prevent diseases like diabetics, high blood, cancer, disease ..... and what to eat to prevent disabilities from born/stillborn child and also when they are growing......."

"We also want to know about the duration of the food in the refrigerator before it can be eaten....."

"We buy (no-name) brands because they are cheap and we can afford it"

"We buy them, because we need them"

"We plant vegetables because we save money, because at the market it is expensive"

"I would like to know why plants have worms"

"Why do our plants not grow properly and why are our carrots so small"

Prefer to produce their own food because it is affordable to local people......it gives vitamins to people.

They are very informed in terms of where they get information about healthy eating-they've indicated all the possible resources......TV, radio, clinics, workshops, schools, books,pamphlets, peer education, magazines, door-to-door campaigns, health talks, home based care workshops and Life Skills teachers

I am unsure about magazines ??

They required a lot of information in terms of (tin stuff) –how long does it take to expire? Why are some tin stuff expanded? Why are damaged tins dangerous?

They prefer to produce spinach, onions, tomatoes, potatoes and in some cases breeding with chicken.

Visit 2: School B

Teachers were not really enthusiastic to participate some of them of them slept during the session

"They only plant flowers and not food ......you can't eat flowers"

(Participant 2) (Very knowledgeable and positive about the project-seems as if he really wants to contribute in terms of knowledge and skills)

Visit 2: School C

Not everyone 'wants' to attend

Participants want to include the following

-soil testing kits (Prof Billy) (supply)

-"include Home Economics as a subject so that children can practice at school ......it doesn't help that there are lots of information they cannot practice it........" Then they can show everyone at home

"Self-fertilisers...... how to make your own............"

"What happens if you do not eat healthy foods?" "......TV: diabetes

Information on different types of cooking oil ....because they only buy thecheapest......"

Visit 3 School A

Mr Tutu indicated that the rest of the school will be writing the "ANA" from tomorrow

The teachers that did attend the session, really co-operated very well enjoyed the session. Most of them really made a valuable contribution

Mr Tutu indicated that the community need more knowledge on soil.......and indicated that soil need to be taken to the laboratory foe sis. They need knowledge on when kind of produce will be suitable in certain soil types

Mr Tutu (participant 1) also indicated that the community also need more knowledge and information in terms of fertilizers –'what type of fertilizer will besuitable for certain type of produce?'

Participant 1 also indicated that the community must know that certain fertilizerswill poison their produce-the community must be taught how to make organicfertilizer

Participant 2 (female) indicated that the community needs skills, knowledge andinformation in terms of the marketing of their own produce.

Participant 1 felt very strongly about organising the community (or individuals in the community into co-operatives to sell their produce as a group. He indicated that the government has money to support these co-operatives. Participant 1 indicated that the community needs support on the process of becoming this kind of funding from the government.

Participant 3 (female) mentioned that the community also need knowledge skills and information in terms of packaging of the product (marketing) if they want tosell their own produce.

Participant 1 again emphasised the importance of establishing 'co-operatives' in terms of 'Banking'. He indicated that the community experts/organisations to come to the community and give them some sort of training in cooking andbaking.

Participant 1 also indicated that the community need 'How to start own home industry'?" he also indicated that the community need help to start their "....own small factories"

Participant 3 mentioned that the community also need information on the use of oil. She indicated that most of the time the community only fry their food. She was adamant that the community must rather steam or boil their food. They also need information on the type of oil available so that they don't only buy the cheapest oil available.

In terms of question 4 the participants agreed upon specific activities that might be included in the current curriculum

Technology: safety measures when using equipments and hygiene when handling food,

Participant 1 again indicated the importance of crop rotation- he mentioned that the community must be aware of shallow and deep roots plants. He also indicated a method where one covers the ground with leaves (didn't get the reason for this method)

At the end one of the younger male participant wanted to know if today's session was the final session and inquired about whether their names will be part of the manual

Another participant was bit sceptical about the parent's need and asked whether the participants actually indicated THAT specific need........we indicated that they actually did......in their language IsiZulu and that Deliwe did the translations afterwards.

You know Karien, I want to tell you about what one of the parents of two learners said to me when I saw her at church. ... she asked me questions about healthy eating, balanced meals and cheap, healthy types of food … before I could explain everything to her she immediately said to me that she wants information to read and also want to know so much more about vegetable gardening. ... she always wanted to start her own, but never knew exactly all the do's and dont's ... she even asked me if I can give her some books, because she wants to share the information with her friend that often visits her ... she was so excited ... so I really wanted to give her something informative that could educate her, but did not have any books or a programme available. A school-based health promotion programme must also be very simple to understand

... the language must be simple and the content must be easy to understand by both learners and parents (FN, 7 April 2014).

APPENDIX K: EXAMPLES OF RESEARCH JOURNAL

I was a little nervous on my role as it was my first time conducting a field work, but soon realised that my facilitation skills came in handy. My supervisors' presence made me feel at ease. It helped to see that even though the school is in a resource-constrained community, the school was well resourced (they had water and electricity, i.e good infrastructure – even a computer lab).At first school, one of the teachers shows us the room they prepared for our research. There are only 4 participants present, I felt disappointed in the number, but I was positive we will get enough information from them. All the research team members are present, I feel ready to conduct my data generation. Introductions and rapport was easily established with the participants. The participants seemed to understand what the research is about and their rights and roles in the research. The consent forms were signed. The participants seemed to be happy to be part of the research. All equipment we need is working well. One participant asks "if they are free to talk in their own language (I indicate to them that it is 100% okay to do that). I was impressed by the level of co-operation and participation by the participants. They did not hold back and seemed to be happy about the intentions of the study. It seemed that they saw the initiative as an answer to their everyday challenges on nutrition. However I wonder if the participants from school A have televisions and radios if they only emphasise that they learn about healthy food at the clinic. School B and school C seem to be aware of the relevant sources of information that tell them of healthy food. The participants shared a lot about their nutritional needs in the community. I was impressed on how effective they communicated their needs to us as strangers. The participants were very open and seemed honest about their challenges. I think that affordability in this community is of paramount importance and it is good that they produce vegetables that are not complicated, plants that are easy to grow and are of value to their bodies. I also liked that they are already planting something, which to me means they are willing to support themselves and their families. I only wonder how they keep their families, especially children, motivated to eat the veggies. I also wonder about the available space and good soil to grow these vegetables in, as well as whether they are able to sustain the supply for family consumption on a regular basis.

I observed that the school have a feeding scheme programme. The school also had a vegetable garden although the garden looked very dry and the plants were not looking good (I thought they might be faced with the challenge in this

regard).According to the participant the vegetable garden is away of the school of compensating for what is not provided for the feeding scheme supplies provided by Department of Education. I thought that the vegetable garden was a good initiative seeing that the parents were also involved in maintaining them. However I also thought that due to their position and being a resource-constrained community they may be faced by challenges in maintaining the food garden (the garden was dry and the plants did not look good). Perhaps they needed more information on how to maintain the gardens. I was impressive when observing the feeding scheme process in practice and to see how many kids benefit from it. I thought the menu was healthy and balanced. I then realised how much a positive the study will be in this community. Participants wanted to know more about crop-rotation, healthy food preparation methods, how safe canned food are, food storage, healthy foods, healthy eating habits, soil fertilization, growing healthy produce. This made me see how much they needed the Win LIFE intervention and how relevant the study as to this community. I wondered about the practicality of the community's reasons for their choices…..do they really focus on quality and healthy food? No name brands are cheaper and it made sense that they go for this option. My experience during the first data generation session was a do I interpret what I experienced during the event (fruitful and rewarding first time experience, the value of team work, the using multiple devices in research, constant observation, the importance of the relevancy of the intended intervention, proud of my communication skills (multi lingual) in identify their needs, co-operation, learning more about others.

The second and third sessions of my data generation at the two respective schools, I was more confident as I have now gained experience from the first visit to the school. PRA workshops with the use of magazines, picture and posters were a very good way of initiating discussions with the participants. Participants were able to identify and discuss their need pertaining to nutrition in the community. I was impressed by the way the participants were able to put their points across. The participants seemed to value the sessions and were open about their challenges pertaining to nutrition and they were willing to learn more so that they can help themselves and their community. The knowledge of how to lead a healthy life especially through proper food consumption seemed to be very important to the participants. The level of chronic diseases seems to have made the participants aware of a need to be assisted by knowledgeable people. The participants seemed eager for an intervention

programme that will assist them in the needs they have identified in the PRA workshops. It can be pap and anything we ate the previous night for dinner or what is available from the fridge. I wonder why the participants from school B and school C did not mention that. We also consume fat cakes and pork spread ("dibabi" and "mafali") for breakfast. Some buy baked cookies and tea at taxi ranks for breakfast. A factor that I thought was of interest in resource-constrained communities has been that some of the children only eat their meals at school; they do not eat breakfast at home. I wonder what community members do to try and eat a balanced meal for dinner, seeing that they have mentioned that a healthy diet is a balanced meal. Pap and meat and a lack of variety on their dinner plates seem like a daily phenomenon. This community seems poor and they may not be able to buy food for a balanced meal on a daily basis. Things I might have loved to experience differently if there was, balanced group allocation (literacy levels and education level) minimising the noise, heat, venue, and time of day, although I learned to adapt to the conditions.

The biggest lesson I have learnt is that as researcher I am at the mercy of my participants. They can cancel reschedule at awkward times for me but I must do it according to their schedule. I experience not having control over the situation especially if there are other things that I needed to do (being at work and going to class). I also learned that this comes with the territory. We were well received at all three the participating schools. At the first school there were only five participants present, I felt disappointed in the number, but we managed to collect sufficient data from them. Rapport was easily established with the participants and I was impressed by the way the participants were able to put their points across. The PRA-based workshops went well and I was able to fulfil my role easily. They did not hold back and seemed to be happy about the intentions of the study. I was concerned about the parents' understanding of the consent form that they have signed and I wondered if they really understood as most of the parents' literacy level is low, although I was confident that I explained it well. From this experience I leaned that (there can never be enough time when discussing bread and butter issue with concerned/affected people). Data generated from the PRA workshops proved too be a lot as my experience with translating the data, transcribing the data and coming up with theme was very tedious and time consuming as this was the first time I was doing it. It was sometimes frustrating to me as I got confused and doubted my competence in this

regard. This meant a lot of reading in doing it correctly and re doing it (repeating the processes) in order to ensure quality.

Member checking: The experiencing was so exciting and rewarding as the time I spend on the generated data through translating and coming up with themes was validated as being the true reflection of what the participants said. The participants agreed with the themes as what they have communicated and regarded as their needs. It was really validating that processes I had to engage in were done so competently. I was so happy with the experience and atmosphere during member checking. The participants do have some knowledge in planting vegetables, however I think they need current methods and ideas regarding using their produce for a way of sustainable income and food supply for their families. I wonder how they think of themselves if they plant in their yard. I wonder what the effects of the amount of pap that we eat as a "culturally inherited staple food" have on our health. I also wonder what variety of vegetable the community eat, as the veggies we eat in my community are cabbage, carrots, onions, tomatoes, green beans, spinach, potatoes, pumpkin, sweet potatoes, that we buy from vendors in the street. I wonder if we do get the value for the money we pay as the veggies are forever in the sun, they are normally bought on a Thursday from the market, the vendors will keep selling them until the week after they were bought from the market, and they decolour, go off, and are not refrigerated. I wonder if the veggies we sometimes eat have any value to our bodies. I am thinking from the community to benefit from the food sold by these corner vendors, the vendors themselves need to be trained on how to conduct their business especially the nutritional benefits, how to store their stock, how long to keep their stock (shelve life of different veggies), and when it is time to classify their stock as a waste that will no longer benefit their customers. When the parents mention their need to know more about shelve life I wondered if they will be able to discard the food that still look and smell okay on the basis of expired shelve life. I wonder if this practice occurs in the resource-constrained community in the Bronkhorstspruit area.

I am really surprised about the teachers' (n=24) positive attitude regarding the development and implementation of the Win-LIFE health promotion intervention. It seems as if the teacher participants view the Win-LIFE health promotion intervention as useful, educational and informative. Teachers repeatedly agreed that the Win-LIFE health promotion intervention might benefit learners, their parents and the

community as a whole. The teachers seemed to value the Win-LIFE health promotion intervention and acknowledge that the intervention might be useful and that the community can definitely benefit from it (January 2015).