THE EXPERIENCES OF GRADE 5 LEARNERS OF AN ENRICHED LIFE SKILLS CURRICULUM

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UNIVERSITEIT VAN PRETORIA
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THE EXPERIENCES OF GRADE 5 LEARNERS OF AN ENRICHED LIFE SKILLS CURRICULUM

by

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Submitted in partial fulfilment of the requirements for the degree

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(Educational Psychology)

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Department of Educational Psychology
Faculty of Education
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SUPERVISOR:
Professor Ronél Ferreira

CO-SUPERVISORS:
Professor William Fraser
Ms Karien Botha

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In loving memory of Pamela Ann Fulton,

my loving grandmother and my constant support throughout my studies

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Declaration

I, Kaitlyn Bentley (student number 14224926) hereby declare that all the resources consulted are included in the reference list and that this study titled

The experiences of Grade 5 learners of an enriched Life Skills currciulum

is my original work. This mini-dissertation was not previously submitted by me for any degree at another university.

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K. Bentley
August 2016

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Ethical Clearance Certificate

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RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER: UP 12/09/02 BOTHA 16-005
DEGREE AND PROJECT	MEd The experiences of Grade 5 learners of an enriched Life Skills curriculum
INVESTIGATORS	Kaitlyn Bentley
DEPARTMENT	Educational Psychology
APPROVAL TO COMMENCE STUDY	08 March 2016
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Please note:

For Master's application, Ethics Clearance is valid for 2 years
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This Ethics Clearance Certificate if issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application of ethical clearance must be submitted
3. It remains the student's responsibility to ensure that all the necessary forms for informed consent are kept for future queries

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Abstract and Key Concepts

The experiences of Grade 5 learners of an enriched Life Skills curriculum

Kaitlyn Bentley

Supervisor : Professor Dr R. Ferreira

Co-supervisors : Professor Dr W. Fraser and Ms K. Botha

Institution : University of Pretoria, Department of Educational Psychology

Degree : MEd (Educational Psychology)

This study forms part of a broader research project that involves the investigation of the effect of a health promotion intervention (Win-LIFE) on a resource-constrained community's practices, needs and expectations related to food choice, preparation and production. As part of the Win-LIFE intervention, the South African Life Skills school curriculum was enriched, and the current study followed its implementation and focused on the experiences of 31 Grade 5 learners in a school in the Bronkhorstspruit area.

For the purpose of this study I followed a qualitative methodological approach, relied on interpretivism as meta-theory and implemented a case study research design, applying Participatory Reflection and Action (PRA) principles. Data were generated by means of PRA-based activities, supported by observations, and documented through field notes, audio-visual techniques and a reflective journal. Thematic inductive analysis was completed following data generation.

Four themes with related sub-themes emerged. The first theme relates to the positive experience of experiential learning. The second theme concerns the role of a supportive facilitator. The third theme entails the positive outcomes of the learning process. The last theme relates to the challenges experienced by the learners.

The findings of this study indicate a positive general experience of the enriched Life Skills curriculum by the Grade 5 learners, which led to benefits both proximally and distally in the various spheres in which the learners functioned. Learners demonstrated the ability to acquire knowledge and skills in a way they enjoyed, transferred these to their families, and their motivation to learn increased.

Key Concepts

- Enriched school curricula
- Food consumption practices and behaviour
- Health and well-being in resource constrained communities
- Health promotion interventions
- Life Skills CAPS curriculum
- Participatory Reflection and Action (PRA)
- Resource-constrained communities
- Win-LIFE intervention

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List of Abbreviations

- Care and Support for Teaching and Learning (CSTL)
- Curriculum and Assessment Policy Statement (CAPS)
- Food and Agricultural Organisation (FAO)
- International Fund for Agricultural Development (IFAD)
- Gauteng Department of Basic Education (GDBE)
- Institute for Food, Nutriton and Well-being (IFNuW)
- Institution Review Board (IRB)
- Integrated School Health Policy (ISHP)
- Millennium Development Goals (MDGs)
- National School Nutrition Programme (NSNP)
- Non-governmental organisation (NGO)
- Participatory Reflection and Action (PRA)
- Sexually Transmitted Infections (STIs)
- Social Cognitive Theory (SCT)
- Sustainable Development Goals (SDGs)
- World Food Programme (WFP)
- World Health Organisation (WHO)

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CHAPTER 1
INTRODUCTION AND GENERAL ORIENTATION

1.1 INTRODUCTION AND RATIONALE FOR UNDERTAKING THE STUDY

The aim of this research was to explore and describe the experiences of Grade 5 learners, after being taught Life Skills as part of a school-based intervention (Win-LIFE[1]) by means of an enriched curriculum. A co-researcher, Ms Mariaan de Vos, focused on the experiences of these learners when taught Natural Sciences and Technology as part of the Win-LIFE intervention.

The current research forms part of a large project situated within and funded by the Institute for Food, Nutrition and Well-being (IFNuW) at the University of Pretoria, and the Multotec Group[2]. The broad project aims to explore how a school-based intervention may affect healthy lifestyles, nutritional behaviour and well-being in resource-constrained communities. Enrichment of the curricula was done as background to the possibility of a follow-up school-based vegetable garden project.

In 2013 I taught a Grade 1 class in a non-governmental organisation (NGO) township school in the Walmer Location, Port Elizabeth. I worked with learners who came to school hungry, many of whom were undernourished. The school's primary mission was to feed each learner three times a day in an attempt to support effective learning. The organisation, as a whole, had vegetable gardens on the school premises to provide parents with an opportunity to grow their own produce, to either sell this, or to use it for their own consumption. Because of my experience in this organisation I became interested in how vegetable gardens, for example, can promote the health and well-being in at-risk communities.

According to Burchi, Fanzo and Frison (2011) the number of people who are undernourished is increasing worldwide. This increase is partially due to the 2007 and 2008 food price crisis, as well as the overall recent economic crisis, with the current number of those hungry having risen since 2007 (Burchi et al., 2011). According to Food and Agricultural Organisation (FAO), World Food Program (WFP) and International Fund for Agricultural Development (IFAD) (2012) almost 870 million people were severely undernourished between 2010 and 2012. Millennium Development Goals (MDGs) were subsequently formulated with the aim of reducing the number of people who suffer from hunger, particularly in developing countries.

Faber, Witten and Drimie (2011) acknowledge that at local level both adult and child malnutrition rates have increased drastically within South Africa in recent years. This increase has inevitably led to a decrease in the health status of the average South African. According to FAO, WFP and IFAD (2012)

[1] Win-LIFE is an acronym for "Wellness in Lifestyle, Intake, Fitness & Environment".
[2] Multotec Group: Global leader in custom, application-specific mineral processing.

Sub-Saharan Africa has an undernourishment prevalence rate of 26.8%. An increase in household food and nutrition insecurity, a decrease in the quality of basic services and poor dietary intake – against the background of extreme poverty – are current challenges faced by many South Africans (FAO, WFP & IFAD, 2012; Oldewage-Theron, Dicks & Napier, 2006). On-going research is therefore required to address issues of limited food sources, urban agriculture, urban diets, health, childhood mortality, morbidity, malnutrition, childcare, as well as food and nutrition insecurity. The Win-LIFE intervention aims at addressing some of the challenges faced by a large proportion of the South African population.

1.2 WIN-LIFE INTERVENTION

As already stated, the Win-LIFE school-based intervention was developed as part of a broader project of the University of Pretoria's Institute for Food, Nutrition and Well-being (IFNuW). The broader project commenced in 2012 and involves the investigation of the potential effect of a health-promoting intervention (Win-LIFE) on a resource-constrained community's practices, needs and expectations related to food choice, food preparation and food production, as well as the nutrition-related needs of the community. Following the initial exploration of teachers'[3] and parents'[4] perceptions of food-consumption practices and nutrition-related needs in the community; the intervention was developed and implemented[5] in three selected primary schools near Bronkhorstspruit.

At its core the Win-LIFE health promotion intervention aims at enhancing learners' basic understanding and knowledge related to Nutrition and Environmental Education. The project explores how such an intervention may affect healthy lifestyles, nutritional behaviour and well-being in resource-constrained communities. The Win-LIFE intervention was developed by Ms Karien Botha (PhD study). The focus falls on enriching the Natural Sciences and Technology, and Life Skills subjects of the current South African school curriculum (CAPS[6]) for Grades 4 to 6. The intervention was initially offered to Grade 4 to 6 learners by teachers during school hours from August to October 2014. Although the intervention was developed to be implemented by school teachers (n=24), implementation was repeated by the research team in one primary school in 2015 (August to October) in one grade, based on the teachers not implementing the intervention as intended.

Some of the content covered in the learners' workbooks had to be completed at home, thereby encouraging family participation. This practice was based on the assumption that knowledge and skills

[3] MEd study: Cook, E. *Teachers' perceptions of the food consumption practices in a resource-constrained community.*
[4] MEd study: Kumalo, D. *Parents' perceptions of the food consumption practices and nutrition-related needs in a resource-constrained community.*
[5] PhD study: Botha, C.J. *Development and implementation of a school-based health promotion intervention.*
[6] Acronym for "Curriculum and Assessment Policy Statement".

may be transferred to learners' families, and even the surrounding communities when involving family members in curriculum-focused activities.

1.3 PURPOSE OF THE STUDY

According to Babbie and Mouton (2010), Morris (2006) and Royse (2004), exploration, description and explanation are the three central purposes of research. Rubin and Babbie (2001) state that exploratory research has the aim of exploring a topic in order to become familiar with a specific phenomenon. Descriptive research is utilised when a researcher wants to describe, observe and document a phenomenon in its natural setting (Polit, Beck & Hungler, 2001).

The purpose of this particular study was to explore and describe the experiences of Grade 5 learners with regard to an enriched Life Skills curriculum. Following the implementation of the Win-LIFE intervention, I explored learners' experiences of the Life Skills lessons they attended as part of the Win-LIFE intervention. More specifically I investigated the knowledge and skills learners acquired and how they applied these (if so), or envisioned to apply them in future. The focus fell on food-consumption practices and behaviour in terms of food production, food choice and food preparation.

1.4 RESEARCH QUESTIONS

This study was guided by the following primary research question:

> *How do Grade 5 learners experience an enriched Life Skills curriculum presented as part of the Win-LIFE intervention?*

In order to address the primary research question, I formulated the following secondary questions:

- What does an enriched Life Skills curriculum entail within the Win-LIFE intervention?
- Which knowledge, skills, and attitudes did the learners acquire in Life Skills after being taught during the Win-LIFE intervention?
- How do learners reportedly apply (if so) their newly gained knowledge and skills following their participation in the Win-LIFE intervention?
- What do learners like and dislike about being taught Life Skills as part of the Win-LIFE intervention?
- How can the Win-LIFE intervention (Life Skills subject) be improved for future application with Grade 5 learners?

1.5 WORKING ASSUMPTIONS

In undertaking the study I assumed the following:

- Learners in Grade 5 are receptive and willing to learn.

- The Grade 5 Life Skills curriculum lends itself to being enriched with content on nutrition, nutrients, and the food pyramid, guidelines for healthy eating, food safety and storage.
- It is possible to bring about change in learners' behaviour and food consumption practices.
- Teachers have the potential to transfer health and nutrition-related knowledge to learners; this can subsequently facilitate change in learners' food consumption practices and nutrition-related needs.
- Nutrition and Life Skills knowledge acquired by Grade 5 learners can potentially be transferred to their families and communities.

1.6 CONCEPT CLARIFICATION

In this section I clarify the key concepts of this study.

1.6.1 Experiences

Experience can be described as exposure to a particular event, the process of doing or seeing things (Watson, 1991). Rogers (as cited in Koch, 1959) describes experience as sensory or physiological events that are occurring in the moment. It encompasses both an emotional and cognitive component. Experience can also be defined as the increase of knowledge or skills following involvement in activities or events (WordNet, 2004). Furthermore experience is the event that an individual lives or goes through (WordNet, 2009; Merriam-Webster Online, 2009).

For the purpose of this study experiences relate to the participating Grade 5 learners' exposure to an enriched Life Skills curriculum and how they perceived it on a personal level. In exploring their experiences the focus fell on how they made meaning of the enriched curriculum and would apply newly gained knowledge and skills in their lives.

1.6.2 Learners

A learner is defined by the South African Schools Act (1996) as any individual who is receiving education or is obliged to receive education according to the Act. The learners for this particular study were selected from the pool of Grade 5 learners of a school near Bronkhorstspruit. These learners were taught by means of the South African CAPS curriculum, which includes a learning area on health and nutrition within the Life Skills curriculum.

1.6.3 Enriched Life Skills Curriculum

Enrichment in an educational context can be explained as any experience that replaces, extends or supplements existing instruction (Correl, 1978 as cited in Clendening & Davies, 1980). In terms of this particular study the South African CAPS Life Skills curriculum for Grade 5 learners was enriched by focusing on applications and interactive activities related to nutrition, health and well-being. The

curriculum was enriched through the use of experiential learning, where learners became active participants in the learning process. As part of the intervention learners completed assignments in workbooks (Appendix G, on compact disc), focusing on the enrichment of nutrition information and CAPS compliant activities. Some of the assignments included in the learners' workbooks had to be completed at home, thereby encouraging family participation.

The current Life Skills school curriculum focuses on the holistic development of learners, and aims at equipping learners with skills and values that will enable them to attain physical, intellectual, personal, emotional and social potential (Department of Basic Education, 2011). As such the aim of the Life Skills curriculum is to prepare learners with the necessary skills to deal positively with challenging situations and circumstances. The curriculum incorporates three main focus areas, namely the development of personal and social well-being, physical education and creative arts.

This particular study thus explores learners' personal encounters and perceptions of the Life Skills curriculum being made richer, and fuller. The aim of the enriched curriculum was to convey knowledge and skills that could promote and improve the health and well-being of learners and their families by supporting their control of the factors that may play a role in determining health. The ultimate aim was to promote participants' quality of life and well-being. Overall this intervention focused on the aim of the CAPS Life Skills curriculum by assisting learners in achieving their full physical potential, and dealing with challenges such as household food and nutrition insecurity, hunger and malnutrition.

1.7 PARADIGMATIC CHOICES

In this section I introduce the conceptual framework of the study, as well as the epistemological paradigm and methodological approach I relied on. More detailed discussions follow in Chapter 3.

1.7.1 Conceptual framework

I based my *conceptual framework* on the theoretical framework of Ozer (2006), which I integrated with Bronfenbrenner's model of social-ecological transaction (Bronfenbrenner, 1979). Ozer (2006) and Bronfenbrenner (1979) both emphasise the need to consider external influences on one's experiences and learning, recognising the impact of interactions between influencing systems in a reciprocal manner. Both models are characterised by a comprehensive, holistic approach.

Bronfenbrenner's model of social-ecological transaction (Bronfenbrenner, 1979) can be used to explain the effect of a school-based intervention on learners and their learning (Eisenmann, Gentile, Welk, Callahan, Strickland, Walsh & Walsh, 2008; Ozer, 2006). This model considers the influence of the micro-, meso-, macro- and chrono-environments on learners. Development of learners occurs within these four nested systems, which all interact (Lewallen et al, Hunt, Potts-Datema, Zaza & Giles, 2015;

Donald, Lazarus & Lolwana, 2010). This particular theory provided a basis for me to examine the effect of the Win-LIFE intervention on the Life Skills learning subject.

Together with Bronfenbrenner's model I relied on the model of potential effects of school garden programmes, as presented by Ozer (2006). This framework identifies the proximal and distal effects of school-based garden interventions. Proximal effects are short term effects, whereas distal effects refer to long term effects. Proximal effects of a health promotion intervention, such as a school garden on a learner, according to Ozer (2006), can include things such as exposure to fruits and vegetables and an increase in positive attitudes towards eating fresh produce. Distal effects of a school garden, on the other hand, relate to, for example, an increase in learners' intake of fresh produce, a decrease in risky behaviour and an increase in academic performance (Ozer, 2006).

According to Bronfenbrenner (1979) proximal, face to face interactions create long lasting influences on development. His model acknowledges that different environments shape development and influence one another, as well as the learner. Change in one part of the system will thus create changes in other parts of the system, as all facets are interdependent. It follows that changes in the school environment can bring about changes in the family or community, and *vice versa* (Ozer, 2006).

My conceptual framework, which thus integrates Ozer's (2006) framework and Bronfenbrenner's (Bronfenbrenner, 1979; as cited in Cicchetti & Lynch, 1993) model allowed me to consider both the proximal and distal effects of the Win-LIFE enriched curriculum, within the various contexts, of which the school, learners and community form part. This was an important consideration in this study, as all these contexts and systems may affect learners, their understanding of health, nutrition and well-being, their nutrient consumption, and their attitudes to food consumption, as well as their communication and social participation. The model provided a basis for exploring the outcomes of the Win-LIFE intervention, more specifically in terms of the participating learners' experiences of the enriched Life Skills curriculum. The basic idea of Ozer's (2006) theory was applied to the experiential learning principles of the Win-LIFE project. Furthermore, using this framework as a lens allowed me to consider the socially constructed reality of the learners through an interpretivist epistemological paradigm.

1.7.2 Meta-theoretical paradigm

I utilised Interpretivism as meta-theoretical paradigm, thereby acknowledging that reality is socially constructed in multiple ways (McMillan & Schumacher, 2010). According to Neuman (2006) Interpretivism aims at interpreting a particular event or practice by considering the specific social context in which it occurs. Each individual's behaviour is regarded as being influenced by his/her subjective worldview.

My primary focus was learners' experiences of the enriched Life Skills curriculum, offered as part of the Win-LIFE intervention. As such I aimed at understanding the learners' experiences and perceptions,

considered within their social setting (school, home and community), in which they were nested. It would have been detrimental to the study to consider these experiences outside of the contexts in which the learners' realities had been constructed.

One of the secondary research questions of the study relates to learners' attitudes towards the intervention, which was also socially constructed. In this regard I aimed at interpreting the learners' ideas and views on how their newly acquired knowledge and skills could be applied practically within the context of the community. An interpretivist paradigm was well suited to do this within a qualitative methodological approach.

1.7.3 Methodological approach

I followed a qualitative methodological approach (Creswell, 2003). Qualitative research acknowledges the existence of multiple realities and involves the understanding of a social phenomenon or situation from participants' perspectives. It aims at exploring, describing and explaining a particular event or practice as perceived by participants. Participants' understandings and explanations are acknowledged as complex and are derived from multiple perspectives (McMillan & Schumacher, 2014).

This approach enabled me to explore and address the research questions of this study in terms of Grade 5 learners' experiences of an enriched Life Skills curriculum after participating in the Win-LIFE intervention. To address the formulated research questions it was necessary to recognise that participants' views of their experiences of the curriculum would be subjective and personally interpreted. Throughout I acknowledged that there is not only one correct view or experience. As each learner's view of the intervention was unique I regarded a qualitative approach as suitable, allowing for multiple realities.

1.8 BROAD OVERVIEW OF THE RESEARCH PROCESS

In the following sub-sections I introduce the research process, including the research design, selection of participants, and methods of data generation, documentation and analysis. I discuss these aspects in greater detail in Chapter 3.

1.8.1 Research design

I implemented a case study research design as suggested by Creswell (2003) and Yin (2003a), applying participatory reflection and action (PRA) principles (Chambers, 1994). More specifically, I relied on a single case study design, and gathered data from one primary school in the Bronkhorstspruit area.

A case study design is characterised by an in-depth exploration and description of the experiences of a small number of participants (Mouton, 2001). Similarly, PRA focuses on the views of the subjects in a study to increase understanding and insight, with regard to the participants' life worlds (Mouton, 2001). The nature of this particular community and the specific environmental circumstances fitted well into a

research design that focuses on gaining an understanding of content, circumstances and experiences of a specific case. Through collaborative efforts between the research team and participants, information could be attained that assisted me in understanding the phenomenon under study.

I therefore focused on exploring and describing a specific case (learners who have been taught Life Skills by means of an enriched curriculum) in depth by actively involving the learners in participatory activities. Through learner participation and reflection activities I was able to generate information regarding the learners' perceptions of such an enriched curriculum in terms of knowledge, skills and their attitudes to a school-based intervention.

1.8.2 Selection of case and participants

I conveniently selected the case and purposively selected the learner participants. McMillan and Schumacher (2010) describe convenience sampling as making use of participants that are already available, or a research site by implication. I employed convenience sampling as I selected participants from a primary school near the Bronkhorstspruit area, which has formed part of the broader existing project since 2012. The re-implementation of the intervention in 2015 led to one of the initial three schools being selected to participate in the second round of implementation based on the school's willingness to collaborate.

Purposive sampling can be defined as selecting participants based on specific characteristics (McMillan & Schumacher, 2010). Thirty one participants were purposively selected from the participating school in order to gain an in-depth understanding of their experiences of the enriched curriculum. It was essential to select learners who were able and willing to participate after school hours, and could communicate in English. I elaborate on the selection procedures and criteria in Chapter 3.

1.8.3 Data generation, documentation and analysis

For data generation I used PRA-based activities, supported by observation. I documented the data by means of field notes, audio-visual techniques and reflective journals of my co-supervisor, co-researcher and myself (Cohen, Manion & Morrisson, 2007). I co-facilitated two *PRA-based workshops* with the participating learners, who compiled posters and completed creative activities. Chambers (1994) regards the aim of PRA as to encourage participants to share, improve and examine their knowledge of life and life's conditions. PRA-based workshops also encouraged participants to reflect continuously, which could in turn potentially lead to action and stimulate further reflection (Maree, 2007).

In support of the PRA-based activities, I relied on *observation*. Observation entails a method whereby a researcher listens to, hears and records what is witnessed in the field (McMillan & Schumacher, 2010). As I aimed at gaining insight into learners' experiences of an enriched curriculum, observation allowed me to note non-verbal communication on the issue at hand, and on the learners'

related experiences. I recorded observations in the form of *field notes*. For this purpose I audio-recorded all PRA-based activities and the responses of the participants while taking *field notes* of the research process, participants' contributions and all data generation activities. Following the data generation process I transcribed all audio-visual data I had obtained (Bell, 2010). Reflective journals (my own and those of my co-supervisor) also allowed me to note learners' subjective perspectives in terms of their experiences of being taught Life Skills as part of the Win-LIFE intervention in an enriched curriculum. In Chapter 3 I discuss the data generation and documentation procedures in more detail.

I conducted inductive thematic analysis to identify patterns or themes within the data. Inductive thematic data analysis makes use of an organising principle and explicitly states the procedures that need to be followed to transfer data from text to interpretation. Information is divided into specific themes in order to assist the researcher in making meaning of other people's sense-making (Attride-Stirling, 2001). Next, codes are given to the raw data (Guest & McLellan, 2003), based on the identification of important moments and then encoding these before analysing them. Throughout I aimed at selecting codes that would capture the richness of the phenomenon being studied (Boyatzis, 1998). I identified themes and named codes based on the learners' experiences of the enriched curriculum. In this way the themes and sub-themes capture important elements of the data that was associated with the research questions (Braun & Clarke, 2006).

1.9 ETHICAL CONSIDERATIONS

I treated the participants in the study with respect at all times, and prevented them from being harmed physically or psychologically as suggested by McMillan and Schumacher (2010). In addition I became accustomed to cultural differences before data generation, and was open to learning about cultural practices that differ from my own in order to display the necessary respect. Avoidance of deception contributed to the trust and honesty that were maintained at all times. I did not coerce participants into participating in the study and I avoided deception by providing participants with information about the study (Mouton, 2001) before they participated.

Permission to conduct the research was obtained from the Gauteng Department of Basic Education in 2012 (See Appendix A), as well as from the principal of the school (See Appendix B) that participated in the study. I obtained informed consent from the parents of the child participants (See Appendix C) as well as informed assent from the learners (See Appendix D), prior to commencing with data generation (McMillan & Schumacher, 2014). The learners' potential decision to decline participation in the study, or to terminate their involvement at any point in time was respected. Furthermore I respected privacy, anonymity and confidentiality, thereby dealing with the data in an ethical manner. As anonymity refers to ensuring that participants remain nameless (Neuman, 2006), I made use of pseudonyms. For the purpose of confidentiality I ensured that the information collected during the research process was

handled with the utmost care. I endeavoured to interpret the findings in a professional and trustworthy manner. Throughout I acknowledged the possible limitations of the study. A more detailed discussion of the way in which I implemented ethical guidelines follows in Chapter 3.

1.10 TRUSTWORTHINESS OF THE STUDY

The criteria for rigour or trustworthiness in qualitative studies, according to Lincoln and Guba (1985), are credibility, transferability, dependability and confirmability. In addition Seale (2000) acknowledges authenticity as a fifth criterion. Strategies to enhance the rigour of the study based on these five criteria included protracted engagement or continuous observation; triangulation of data sources, methods and researchers; frequent on-site interaction; peer debriefing; identification of limiting exceptions; purposive sampling; reflexive journals and independent audits (Lincoln & Guba, 1985).

Credibility refers to the sufficient and authentic depiction of the constructions of a case being studied (McMillan & Schumacher, 2014; Patton, 2002). I made use of member checking, triangulation, noting of consistencies in participants' statements and consulted my supervisors in order to enhance credibility. *Transferability* relates to the generalisability of the findings of a study (Lincoln & Guba, 1985), which is not the aim of this study as it is context specific. The reader may, however, decide to what extent the findings of this study may be transferred to similar contexts.

Dependability entails the stability of the interpretation of data (McMillan & Schumacher, 2014; Patton, 2002), for which purpose I consistently documented the entire research process. *Confirmability* depends on a researcher's steps to construct interpretations based on data and record keeping (Denzin & Lincoln, 2000), to which end I made use of field notes, and thoroughly documented the process of thematic analysis. Finally the *authenticity* of a study refers to the degree to which the true voices of research participants are heard (Patton, 2002). In this regard I focused on ensuring fair and accurate documentation, and monitored the process diligently. I discuss the strategies I implemented to ensure the trustworthiness of this study in more detail in Chapter 3.

1.11 OUTLINE OF CHAPTERS

Chapter 1: Introduction and General Orientation

This chapter provides a broad overview of the study. I explain the rationale for undertaking the study, and discuss the purpose. I formulate research questions and state the assumptions with which I undertook the research. I introduce the paradigmatic choices and provide a broad overview of the research process, the ethical considerations and trustworthiness of the study.

Chapter 2: Literature Review

Chapter 2 provides the theoretical background. I explore health-related behaviour and challenges in South Africa, which include the effect of malnutrition on families, and factors that may influence health-

related behaviour, with poverty as an underlying determining factor. I discuss approaches to addressing health-related challenges, including health promotion and school-based interventions. Furthermore I explain the possibility of enriching the Grade 5 Life Skills CAPS curriculum and the manner in which the Win-LIFE intervention added to the curriculum. Lastly I present the conceptual framework of the study.

Chapter 3: Research Design and Methodology

In this chapter I explain the research paradigm, research design and process utilised in this study. The methods of data generation and documentation are discussed; these choices are justified against the background of the purpose of the study and the formulated research questions. I also explain how I conducted data analysis, and outline which ethical guidelines and quality criteria I adhered to.

Chapter 4: Research Results and Discussion of Findings

The results of the research are presented in Chapter 4. Based on the thematic analysis I conducted, I discuss the themes and sub-themes that emerged, enriching my discussion with verbatim extracts from the data. The results are discussed in relation to existing literature when I present the findings of the study.

Chapter 5: Conclusions and Recommendations

In this chapter I address the research questions in terms of the findings I obtained, arriving at final conclusions. I indicate the potential contribution of the study, and reflect on the challenges I encountered. Finally, I make recommendations for further research, training and practice in this particular area of interest.

1.12 CONCLUSION

In this chapter I explained the rationale for undertaking the study, together with the purpose of the research, and the assumptions on which my study was based. I discussed the core concepts of the study and then formulated a primary and related secondary research questions. The paradigmatic choices I made were introduced and the research process described. I referred to ethical considerations and the trustworthiness of the study.

The literature review I conducted on this particular research topic is dealt with in Chapter 2. I introduce the reader to health-related behaviour and challenges generally experienced in the South African context. The effects of malnutrition on families, together with the factors that could influence health-related behaviour as well as the effects of poverty are discussed. I then explore potential interventions that may address current challenges. Finally, I explain my conceptual framework and how it applies to the study.

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CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

The current study was introduced in the previous chapter. I stated the purpose of the research, formulated a primary and related secondary research questions, and mentioned my working assumptions. I also introduced the conceptual framework, and selected epistemological and methodological paradigms to support my research. I provided a broad overview of the research process, ethical considerations of the study, and strategies I employed to enhance trustworthiness. As such, Chapter 1 provides the necessary background against which the other chapters can be read.

High levels of chronic diseases, infectious illnesses, HIV/AIDs-related illnesses, injury-related mortality and inadequate nutrition are currently prevalent in South Africa (Oldewage-Theron & Egal, 2010). In this chapter I focus on existing literature related to these phenomena as background to the empirical investigation I undertook. I discuss ways of promoting health and well-being in resource-constrained communities, and provide background information on the Win-LIFE intervention. I finally present the conceptual framework that guided me in generating data and interpreting the findings I obtained.

2.2 HEALTH-RELATED BEHAVIOUR AND CURRENT CHALLENGES IN SOUTH AFRICA

Corbin, Lindsey and Welk (2000) define health as a state that is free of disease and illness. Health incorporates a component of wellness that is linked to quality of life, as well as to positive well-being. The World Health Organisation (WHO) defines health promotion in the Ottawa Charter for Health Promotion (WHO, 1986) as empowering people to take control over their own health and related influential factors in order to improve their health and well-being.

Communities and household food and nutrition security depend on various social, economic and institutional factors. These factors generally influence the quality, quantity and affordability of food (Burchi et al., 2011). The need exists for on-going research on the long-term causes of nutrition insecurity and hidden hunger, with specific focus on interventions that could enhance food and nutrition security.

In this section I explore the effects of malnutrition on the population of South Africa. I also discuss factors that influence health-related behaviour, the Millennium Development Goals (MDGs) with regard to the current status of accomplishing the goals, and food-related trends within resource-constrained communities in South Africa.

2.2.1 The effect of malnutrition on families and children in South Africa

The Global Nutrition Report 2016 (UNICEF-World Bank-WHO, 2016) indicates that malnutrition and poor diets are the primary causes of the global burden of disease. It is estimated that two billion people are affected by micro-nutrient deficiencies, which are the cause of hidden hunger (UNICEF; World Bank; WHO, 2016). Nearly 925 million people are said to be hungry worldwide. Hidden hunger generally results in poor health and low productivity, which in turn lead to a reduction of livelihood and quality of life for all those affected (Welch & Graham, 2002). Stein and Qaim (2007) acknowledge the detrimental effects of this pandemic on both human development and economic functioning, both of which have a strong negative impact on the functioning of families living in adverse circumstances.

Globally child health has deteriorated over the last ten years (Oldewage-Theron & Egal, 2010). According to Green, Botha and Schönfeldt (2004) one out of two children has an energy intake that is two thirds less than his or her energy needs, and many children's diets are poor in nutrient density, which is necessary to meet their nutritional requirements. Stunting and children who are underweight are the two most common nutritional disorders in South Africa, and are most severe in children between the ages of one and three years, especially children who live in rural communities and on commercial farms. According to the Global Nutrition Report 2016, 159 million children below five years of age are stunted, and 50 million children are underweight (UNICEF; WHO; World Bank, 2016). Adequate nutrition during the first few years of life is vital, and is a concern in many developing countries. Inadequate nutritional intake during these critical years can cause growth deficits, which are associated with higher mortality rates, increased prevalence of infectious diseases, delayed psychomotor development and lower productivity later in life (De Souza, Fernandes & Do Carmo, 2011).

Malnutrition can severely affect the academic performance, learning, well-being and play of children (Oldewage-Theron & Egal, 2010). According to Kar, Rao and Chandramouli (2008) malnutrition plays a significant role in attention levels, working memory, learning and memory, and visuospatial ability. In addition to this it is recognised that adequate nutritional intake throughout the lifecycle plays a significant role in the sustained development of human capital in a family (Garza-Rodriguez, 2002). The Global Hunger Index (2014) confirms this by recognising the capacity of hidden hunger to impair growth and learning, and therefore ultimately limit productivity and perpetuate poverty within a continuous cycle.

In addition to malnutrition, obesity has become a distinct challenge worldwide, also affecting many South Africans. Obesity implies a condition of over-nourishment and affects 13.5% of South African children between the ages of 6 and 14 years according to the *South African National Health and Nutrition Examination Survey-1* (Shisana, Labadarios, Rehle, Simbayi, Zuma, Dhansay, Reddy, Parker, Hoosain, Naidoo, Hongoro, Mchiza, Steyn, Dwane, Makoae, Maluleke, Ramlagan, Zungu, Evans, Jacobs, Faber, SANHANES-1 Team., 2014). An urgent and comprehensive approach is needed to address the high

rates of obesity in South Africa. Dietary intake, poor access to healthy and affordable foods, poor health-related knowledge and limited engagement in physical activity are all potential contributors to the high rates of obesity. In addition high energy foods in South Africa cost less on average per unit of energy than meat, fruits and vegetables, which has a significant effect on the types of foods consumed (Mchiza & Maunder, 2013).

2.2.2 Factors influencing health-related behaviour

A number of factors play a role in determining and changing health-related behaviour. These factors such as those related to demographics or social influences may originate in the broader macro-environment in which an individual is nested. In terms of demographics, people living under high levels of stress and in poverty are less likely to engage in good health-related practices. Furthermore, depending on geographical location, lack of access to health care services and systems may have an impact on health-related behaviour (Taylor, 2009).

Family, friends and people within the work environment can all affect an individual's health-related practices, which can either be positive or negative (Turbin, Jessor & Costa, 2006; Broman, 1993). It is therefore important to understand individual, familial, social and cultural factors that may play a role in engaging in, or maintaining health promotion, compromising behaviour and practices. It is furthermore important to consider health-related practices from a behavioural and social sciences perspective in order to understand why individuals take part in risky health-related behaviour or choose to adopt health protective behaviour (DiClemente, Crosby & Kegler, 2002).

In addition, health-related behaviour may be influenced by internal factors such as age, cognition, one's beliefs, self-efficacy, incentives or attitudes. In terms of age, healthy habits are generally higher among younger individuals (Rosen & Solomon, 1986). Cognition, such as intelligence and knowledge, as well as a sense of personal control (Taylor, 2009) may play a role (Jaccard, Dodge & Guilamo-Ramos, 2005). In relation to cognition's effect on health-related behaviour it is necessary to consider one's belief system when evaluating health-related behaviour (Taylor, 2009). According to the Health Belief Model (HBM), individuals' health practices are dependent upon their awareness of potential health threats, and whether or not they believe that engaging in a particular behaviour will protect them from that threat. Furthermore, self-efficacy may determine or change health-related practices, as it relates to an individual's beliefs regarding the ability to engage in or refrain from certain behaviour and activities (Taylor, 2009).

Attitudes form an important part of health-related behaviour interventions. As human behaviour is generally spontaneous, it is difficult to predict long-term behaviour change (Ryan, Patrick, Deci & Williams, 2008). Information provided to individuals can lead to defensive responses or irrational

processes. Individuals can furthermore view a health threat to be less important than it really is (Liberman & Chaiken, 1992), or individuals can view themselves as less likely to be in danger than others (Clarke, Lovegrove, Williams & Macpherson, 2000). They may also feel that they are not like others who have succumbed to the consequences of poor health-related behaviour (Thornton, Gibbons & Gerrard, 2002). If individuals, for example, continue to engage in poor health-related behaviour, they may increasingly believe that they are not vulnerable to such a threat (Halpern-Felsher, Millstein, Ellen, Adler, Tschann & Biehl, 2001).

In line with this thinking it is necessary to consider the incentives of positive or negative health-related behaviour. Personal goals and perceived symptoms are some of the potential influencers of health-related behaviour. Additionally, the consequences of behaviour in the early years of life will cumulate and manifest only later. Health-related behaviour tends to be unstable, as one's decision to engage in healthy habits and practices does not ensure that one will continue with the behaviour at a later stage. In addition, factors that control and influence people's health-related behaviour can change in the course of life. In summary individuals are unique in terms of their health-related behaviour patterns, the developmental course of the behaviour and the factors that influence these (Taylor, 2009; Robertson, 2008).

With regard to a change in attitude, research suggests some guidelines for successful interventions in facilitating change in health-related behaviour (Taylor, 2009). It is firstly suggested that information needs to be provided to recipients (learners) in a colourful, vivid way. Secondly the communicator of information needs to be an expert, someone who is trustworthy, likeable and similar to the recipients of the information. Thirdly the communicator needs to present strong arguments, and provide short, clear and direct information, providing conclusions in an explicit manner. The communicator also needs to be aware that extreme information may bring about an attitude change, but that this may last for a limited time only (Taylor, 2009).

In applying these guidelines to the Win-LIFE intervention, all sessions with participating learners, as well as the tasks they completed at home as part of their workbooks, involved colourful, activity-based activities. The communicators of the information were knowledgeable about the content being taught, and were prepared for all the sessions in terms of the approach to follow and the materials required. Time was spent on building rapport between the learners and communicators of information throughout the sessions. Information was provided to the learners in short, clear and simple sentences in order to ensure that they could comprehend the information conveyed. The benefits of engaging in healthy behaviour was emphasised throughout the intervention. The focus of the information given to the learners was positive in nature, although the consequences of poor health-related behaviour were acknowledged.

2.2.3 Poverty as underlying factor of health-related challenges experienced in South Africa

According to Statistics South Africa (2014) inequality in South Africa is among the highest in the world. Even though poverty levels have declined since 2006, the percentage of the South African population affected by poverty was still 45.5% in 2011. UNICEF (2011) indicated that 64% of South African children lived in poverty at the time. On average nearly 40% of all children find themselves in homes with no economically active household members. These statistics emphasise the importance of prioritising youth, particularly younger children, when attempting to address the challenge of poverty (Streak, Yu & Van der Berg, 2009).

SANHANES-1 (Shisana et al., 2014) conducted a study on the health and nutritional status of South African individuals across ages, using 2001 census population data to create a basis for sampling households. According to the World Food Summit of 1996, food security is possible when everyone has access to adequate, safe and nutritious food to meet their dietary needs as well as their food preferences at all times. The SANHANES-1 report indicates that overall food security for the population was 45.6% by 2009. Urban informal (32.4%) and rural formal (37.0%) communities were found to experience specifically high rates of hunger.

SANHANES-1 (Shisana et al., 2014) reports that in terms of children's dietary trends 71.7% of South African children (under the age of 18 years) within the 10 000 households surveyed had low scores of average general nutrition knowledge at the time. Despite their poor nutritional knowledge the majority of the participants in this study were able to identify healthy food alternatives correctly. Of the participating children, 68.4% reported that they had breakfast, with the majority regarding this as important. Main reasons identified for not having breakfast were not being hungry or not having enough food at home. It was furthermore reported that around half of the children did not take lunch boxes to school, primarily because of their view that there was enough food at school, or that there was not enough food at home. The study also indicates that 51.3% of the children who participated would take money to school, with almost half of them doing so every day.

According to the *Poverty trends in South Africa: An examination of absolute poverty between 2006 and 2011* survey published by Statistics South Africa (2014) the average poor household spent five times less than non-poor households in 2011, with the highest proportion of expenditure going to food, accounting for 33.5 % of the amount spent during a year. Poor households were reported to spend 34.7 % of their food expenditure on bread and cereals, 22.4 % on meat and fish, and only 12.3 % on fruits and vegetables at the time of the survey. This trend reflects the poor nutritional intake of resource-constrained communities, which ultimately has a significant impact on the health of individuals. Poor households were also found to consume mainly apples and bananas when consuming fruit, in comparison to non-poor

households that typically consumed a variety of fruit. The daily nutrient intake per person on average is, however, generally low in South Africa (Statistics South Africa, 2014).

The total per capita intake of fats, proteins, calories and salt among the South African population is also on the rise (Shisana et al., 2014). In this regard buying packaged food, salts and the amount of food bought from street vendors and fast food outlets are rising rapidly. Furthermore, energy dense and refined foods are consumed more regularly due to the low cost of these products, in comparison to nutrient-dense foods such as fish, lean meat, vegetables and fruit (Faber et al., 2010). This change in nutrient intake is above the recommended dietary allowance (Igumbor, Sanders, Puoane, Tsolekile, Schwarz, Purdy, Swart, Durao & Hawkes, 2012).

According to Labadarios, Steyn and Nel (2011) the types of food consumed by South Africans are influenced by tradition and agricultural practices. Income and access to food are documented as other prominent factors influencing food consumption. Due to the high levels of poverty and limited income, the quantity of food provided for the majority of South African households is currently not sufficient. Furthermore, nutritional density is generally not adequate enough to ensure that nutritional requirements are met. Additionally the variety of foods available in many South African households is limited.

2.3 ADDRESSING HEALTH-RELATED CHALLENGES

Health promotion efforts are on the increase globally, emphasising primary and secondary prevention (disease and health compromising factors) in order to extend and enrich lives (DiClemente et al., 2002). Health promotion implies transdisciplinary research, and aims at enhancing health and preventing disease. For this purpose community coalitions may be utilised to bring together diverse individuals that can assist in addressing public health issues in a collaborative manner (DiClemente et al., 2002). This study may contribute to the body of knowledge in this field in terms of learners' experiences following a particular health promotion intervention, namely the Win-LIFE intervention.

The aim of health promotion is to bring about positive change in behaviour related to health. As already indicated, the mere provision of information is not necessarily enough to facilitate behaviour change (Helweg-Larsen & Collins, 1997; Petty, Baker & Gleicher, 1991). Attitudes are one of the most influential determinants of behaviour (Eagly & Chaiken, 1993; Petty & Cacioppo, 1981; Fishbein & Ajzen, 1975), with other factors being social norms (Fishbein & Ajzen, 1975) and previous behaviour and habits (Triandis, 1977), many of which also originate from attitudes. During any intervention it is important to ensure that individuals take personal responsibility for their own health-related behaviour by being sensitised about the information provided (Tetlock, 1983).

The current South African government is committed to facilitating socio-economic justice, in line with constitutional obligations. Attending to the MDGs (WHO, 2015), as well as the *Action plan to 2014: Towards the realisation of schooling 2025* (Department of Basic Education, 2010) are some of the avenues through which this is being attempted. Eradicating poverty, improving health and enhancing nutritional intake are current goals of the South African government. In addition the Department of Health is attempting to enhance the overall health of the country (Departments of Health and Basic Education, 2012).

The WHO Expert Committee on School Health furthermore acknowledges the crucial role that schools and their health programmes can fulfil in advancing the health of the community, as well as education, social and economic development (WHO, 1997). School-based health programmes can therefore be utilised through the implementation of health-related school policies, thereby ensuring a healthy physical learning environment, skills-based health education, and school-based health and nutrition services (Departments of Health & Basic Education, 2012). For the Integrated School Health Policy (ISHP) (Departments of Health & Basic Education, 2012) to be implemented effectively, collaboration among all role players and sectors is imperative. The Departments of Health and Basic Education, together with the Department of Social Development need to collaborate at national, provincial, district, Public Health Service, and school level (Departments of Health & Basic Education, 2012). For this particular study the focus falls on schools as potential avenues for facilitating change. In the following sections I briefly discuss the importance of addressing the MDGs and involving the broader community when attending to health-related challenges, and then more specifically focus on the role of school-based interventions.

2.3.1 Addressing Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)

The eight MDGs of South Africa are committed to are the eradication of extreme hunger and poverty; achieving universal primary education; promoting gender equality and empowering women; reducing child mortality; improving maternal health; combatting HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and developing a global partnership for development (World Health Organisation, 2015). In support of these goals the end of the Apartheid era in 1994 was characterised by the national goal to improve South Africans' quality of life, thereby decreasing the prevalence of poverty and social inequality (African National Congress, 2004: Republic of South Africa, 1994). These initiatives emphasise the importance of on-going research in the field of health promotion interventions, which is also the aim of the broader study within which I conducted my research.

According to WHO (2016) Sustainable Development Goals (SDGs) are an intergovernmental set of goals that address sustainable development issues and build upon MDGs. Ending poverty and hunger;

improving health and education; making cities more sustainable; combating climate change and protecting oceans and forests are some of the goals included in the agenda titled *Transforming our world: the 2030 agenda for sustainable development.* These goals are intended to be action-orientated in nature, globally and universally applicable to all countries.

Despite on-going efforts and some progress in alleviating its effects, poverty has remained widespread in sub-Saharan Africa. Extreme poverty is specifically evident in areas where poor health and a lack of quality education prevail, which deprive people of productive employment; where environmental resources are depleted or spoiled; and where corruption, conflict and bad governance that waste public resources and discourage private investment (WHO, 2013) prevail. Of the eight MDGs formulated to have been reached by the end of 2015, the Win-LIFE intervention relates to three, namely to eradicate extreme hunger and poverty, to achieve universal primary education, and to reduce child mortality (WHO, 2015).

In terms of the current progress in reaching these three MDGs the number of underweight children below five years of age decreased within developing countries from 28% to 17% between 1990 and 2013. However, poverty and hunger eradication improvements have been uneven as they differ between and within different regions. In terms of the goal related to universal primary education there has been some progress since 2000; however, this progress has been stalled at 91% in developing countries since 2009, with a 70% completion rate in primary school education in South Africa since 2012. With regard to the MDG on child mortality, the mortality rate of children under the age of five years declined from 12.7 million in 1990 to 6.3 million in 2013 (WHO, 2015). In 2013 the MDGs once again propagated that the international community should work together and collaborate to address the challenges of poverty.

In the next section I elaborate on the importance of community involvement in addressing health-related challenges. Following on the MDGs, 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, improved nutrition and sustainable agriculture, ensuring healthy lives and promoting well-being for all at all ages. In addition, the SDGs aim at enhancing inclusive and equitable quality education, and at promoting lifelong learning opportunities.

2.3.2 Community-based responses to health-related challenges

Brookins-Fisher, O'Boyle and Ivanitskaya (2010) emphasise the importance of following a multi- and interdisciplinary approach to interventions for health promotion. A comprehensive, holistic approach is regarded as the key when addressing social issues, such as poverty or poor health-related practices. Granner and Sharpe (2004) as well as Zakocs and Edwards (2006) report that community coalitions and partnerships may be utilised to achieve this end.

According to Moxley (2008) interdisciplinary community coalitions refer to the involvement of individuals from various educational and professional backgrounds in the process of addressing community issues. Interdisciplinary community coalitions within the field of public health, health education and disease prevention thus become the norm, due to the nature of the issues being addressed. In this study, as part of such coalitions, academics from different disciplines engaged with teachers and parents to improve community-wide health and well-being when developing the Win-LIFE intervention, thereby making use of an interdisciplinary approach to addressing health promotion in coalition with community members.

Community coalitions allow for community members' abilities, expertise and resources to be combined when addressing challenges. In this regard DiClemente et al. (2002) state that community-based interventions can result in appropriate and effective responses to community needs and challenges. Furthermore Campbell and Mzaidume (2003) advocate community-based interventions to address social issues to ensure a participatory and democratic process, allowing community members to take ownership of addressing challenges.

According to Ozer (2006) various ways that can promote healthy child development exist. Long-term commitment and efforts by both schools and local communities seem necessary. Volunteers are regarded as key to community-based interventions that may take the form of community or school-based vegetable gardens for example. According to Townsend, Gibbs, MacFarlane, Block, Staiger, Gold, Johnson, Long (2012) the involvement of volunteers can increase the sustainability of school-based garden interventions. Involvement of volunteers may also lead to better communication between teachers and the families of learners, and create opportunities for learners to interact with other people and learn from their experiences, as well as to work alongside volunteers.

As an extension of the Health Promoting Schools (HPS) initiative (WHO, 1986), the Gatehouse Project has focused on the importance of complex multilevel school-based health promotion initiatives, indicating that success requires long-term commitment by funders, government departments, communities and schools. Interventions therefore do not imply an overnight fix, but rather a time consuming, long-term endeavour (Bond, Patton, Glover, Carlin, Butler, Thomas & Bowes, 2004). In support of this idea, a study by Kwan, Petersen, Pine and Borutta (2005) highlights the importance of relationships and collaboration between schools and communities when addressing challenges related to health in at-risk communities. As such, the relationship between the three spheres of school, home and community remains vital in any effort to address health-related challenges.

The HealthKick programme, conducted in the Western Cape of South Africa, reviewed various existing health promotion interventions across the globe. One of the factors that were identified as

contributing to the success of such programmes relates to the involvement of parents and/or families in any intervention (Steyn, Lambert, Parker, Mchiza & de Villiers, 2009). These findings were considered when designing the broader Win-LIFE project. Throughout it was important to remain aware of the systemic influences on health-related behaviour for any health intervention, such as the Win-LIFE initiative.

2.3.3 Schools as suitable context for health promotion initiatives

The New South Wales Centre for Public Health Nutrition (NSW CPHN, (2005) regards schools as an important context where healthy eating can be promoted, as this is where learners spend most of their time. In this regard Stock, Miranda, Evans, Plessis, Ridley, Yeh & Chanolne (2007) view the educational setting as ideal for both prevention and health promotion efforts. Schools are not only responsible for educating learners in academic subjects, but also for transferring civic values and social responsibilities that can prepare learners to reach their potential (Frumkin, 2006). Confirming these statements, the Integrated School Healthy Policy of South Africa (Departments of Health & Basic Education, 2012) states that, due to the extensive time spent in a school classroom throughout the formative years, learners can benefit from health education and interventions. Such initiatives can have positive effects on learners' families and communities, which can extend the reach of the efforts to beyond the classroom. In this way learners may become influential sources of health information and models of healthy behaviour and lifestyles for their families, and the broader community.

As health and academic success are interlinked, schools cannot optimally educate learners if the learners are not healthy (Story, Nanney & Schwartz, 2009; St Leger, 2001). Therefore schools have the responsibility to address health issues and shape learners' behaviour positively (Knai, Pomerleau, Lock & McKee, 2006). Kwan et al. (2005) emphasise this by stating that if a message is reinforced during a learner's influential school years, it can lead to the development of lifelong beliefs, attitudes and skills. The fact that an individual's food and lifestyle preferences and patterns are established and can become entrenched during the time of childhood and adolescence (Stock et al., 2007) highlights the potential value of intervening during this particularly influential period of development.

School-based health promotion interventions have been linked to increased levels of physical activity and enhanced nutritional intake by learners, decreased substance abuse, as well as less aggression and at-risk sexual behaviour (Murray & Kujundzic., 2005). Kwan et al. (2005) emphasise the value of promoting health in the school context, based on the belief that such interventions will not only reach learners, but also school personnel, potentially the families of learners, and the communities they are nested in. The World Health Organisation's Ottwa Charter (WHO, 1986) proposes a model whereby the entire school environment is targeted, instead of relying only on "health education" within the curriculum. This approach provides an example of a potentially suitable format for health promotion

efforts, as it emphasises the importance of health interventions focusing on a broader social, political and environmental level, viewing all of these facets as reciprocally influencing health and health-related behaviour. The focus of such school-based initiatives extends beyond the health curriculum to the "hidden" or "informal" curriculum that will promote values and attitudes about health and well-being within the physical setting of a school. In addition families and/or communities may become involved in initiatives on health promotion, as their influences are acknowledged (WHO, 1986).

2.3.3.1 Potential value of school-based interventions

Existing school-based health promotion interventions have been found to enhance learners' development of personal skills, their knowledge base, attitudes and behaviour (Gaglianone, Taddei, Colugnati, Magalhães, Davanco, Macedo & Lopez, 2006; Kwan et al, 2005). School-based health promotion interventions can also promote health, not only of the learners, but also of their families and the broader communities they are nested in (Kwan et al., 2005). As indicated earlier, children are particularly influential in terms of acquiring knowledge and skills, and developing lifelong patterns and habits during childhood years (Kwan et al., 2005). Concerning the transfer of knowledge from children to their parents, Ekström (2007) indicates that children, following enrichment programmes or interventions, may possess knowledge and information that their parents do not. It is therefore possible that children may share their experiences and newly gained knowledge with their parents. Related research indicates that school garden projects may motivate parents to start their own gardens (Morris, 2002).

Many studies focus on vegetable gardens as a base from which to promote health within the school setting. According to the Stephanie Alexander Foundation (Alexander, 2010), if learners are taught about growing, harvesting, preparing, and sharing food in a fun way, the potential for change is substantial. The Foundation specifically highlights the value of experiential learning to enhance learners' food choices, which may ultimately lead to healthier eating habits. Existing studies suggest that school-based vegetable gardens can, for example, promote fruit and vegetable preferences, and/or consumption (Morris & Zindenberg-Cherr, 2002; Lineberger & Zajicek, 2000). The fact that most personal food preferences and exercise habits that continue into adult life are formed before the age of 15 years highlights the potential value of such interventions with children (DiNubile, 1993).

According to Hayzlett (2004) youth gardening projects provide a real-life setting for the development of analysis, synthesis and other vital thinking skills. Kellert (2002) posits that school-based vegetable garden programmes can lead to cognitive development through enhancement of creative inquiry, developing learners' ability to engage in empirical observation, and the ability to examine information critically. Such experiential learning activities have been shown to increase learners' attention levels, promote a positive attitude towards school, and improve interpersonal relationships. Furthermore, skills and interests that are not necessarily associated with high achievement in the traditional classroom,

such as physical strength, visual-spatial skills, or experience in construction can be included. Experiential activities in youth garden programmes (or similar interventions such as the Win-LIFE intervention) can thus provide a different approach to traditional teaching, with positive outcomes (Waliczek, Bradley & Zajicek, 2001).

On-going research is required in the field of school-based interventions within the South African context, where poverty and under- and over-nutrition pose distinct challenges. More specifically, the potential effect of experiential learning needs to be explored continually as this may result in change (Canaris, 1995). It is against this background that the Win-LIFE intervention was developed in an attempt to provide Grade 4 to 6 learners with experiential learning experiences in Life Skills and Natural Sciences classes. The possibility of learners transferring their newly acquired knowledge and skills to the home and the community furthermore justified the decision to present enriched curricula in these subjects.

2.3.3.2 Suitable format for health-related interventions with children

As already indicated, experiential learning involves a process whereby learners build their own meaning as they actively experience content and directly engage in the learning process, working with a "real-life" activity. This entails inquiry-based learning and focuses on concrete experiences (Corson, 2003; Kellert, 2002; Mabie & Baker, 1996; Rahm, 2002). According to Leveritt, Ball and Desvrow (2013) experiential learning can lead to positive learning outcomes.

To this end research indicates that experiential learning can increase academic performance by 8.6% (Bohn & Schmidt, 2008). This approach to learning can influence learners' attitudes, motivation and an understanding of how information can be practically applied. Learners may assess their understanding and mastery of the taught content through experiential learning. In addition to reflection, learners can use critical analysis skills to elicit meaningful information from activities and then apply this to their lives (Bohn & Schmidt, 2008). In this manner experiential learning will enable learners to personalise what they learn, thereby enhancing their learning and engagement (Bohn & Schmidt, 2008). Through direct or vicarious experiences with nature, learners may be encouraged to comprehend and make sense of the learning experience. This process can facilitate cognitive development through creative inquiry. The learner, through doing so, will in turn develop the ability to make use of empirical observation and demonstration (Kellert, 2002).

In terms of the potential of school-based nutrition interventions, a study by Steyn et al. (2009) indicates that enrichment programmes will have a positive effect on learners' nutritional behaviour. Factors that have been identified as potentially beneficial for successful interventions include the training of teachers, inclusion of a physical activity section, involvement of parents and/or family members, grounding of the intervention in behaviour theories (social cognitive, social marketing and stages of

change), and the inclusion of a food service component. For the Win-LIFE intervention participating teachers were trained by the research team, and the intervention included collaborative activities in class, as well as joint child-parent activities at home. In this manner emphasis was placed on cooperative learning.

Gillies, Ashman and Terwel (2007) describe cooperative learning as a peer mediated approach to teaching, which enhances learning, higher level thinking and positive social behaviour. Cooperative learning is based on the premise that children and adolescents learn through social interaction in a number of contexts, both formally and informally. Gillies et al. (2007) identify the following basic elements of cooperative learning: positive interdependence, individual accountability and personal responsibility, promotive interaction, appropriate use of social skills and group processing. One example of cooperative learning is to organise learners into groups that require of them to work collaboratively towards shared goals. This requires of the teacher to make use of existing lessons and to structure these to be more cooperative in nature. In this manner learners will be able to work together and enhance their own and others' learning (Johnson, Johnson & Holubec. 2002).

Throughout the implementation of the enriched Life Skills curriculum we made use of cooperative groups and small group discussions. This differed from the way in which the learners were accustomed to being taught, and posed certain challenges. Expected behaviour, noise, respect and varying levels of participation are some of the challenges associated with such an approach to learning. We made use of positive reinforcement in an attempt to address these challenges. Planned placement of groups in the class as well as the careful structuring of the groups was used to enhance the efficacy of group work, as suggested by Slavin (2011). We furthermore made use of strategies such as utilising summary sheets, for example, to assist learners with the content taught.

In terms of the importance of the theoretical grounding of interventions, research indicates that intervention programmes relying on Bandura's social cognitive theory (SCT) are often successful. Such interventions focus on modelling, rehearsal, practice, goal setting, cueing and reinforcement of desirable behaviour. Techniques such as self-monitoring and goal-setting are particularly effective. Approaches such as these can, for example, encourage participants to consider how they spend their free time, reward them for being active or consuming fruit and vegetables, and then set more goals for activity or fruit consumption. Information sheets and worksheets to be completed at home by parents can also be effective in promoting a healthy lifestyle (Gorley, Nevill, Morris, Stensel & Nevill, 2009). This strategy forms parts of the Win-LIFE intervention, providing information for family members in terms of the content covered at school.

In order to encourage learners to develop a lifelong commitment to an active, healthy lifestyle, school-based intervention programmes should thus focus on knowledge, attitudes, behavioural skills, and also the increased confidence of learners to participate and engage in activities. Through the development of knowledge, skills and attitudes, psychosocial health can be promoted, which may assist learners to establish new social norms with regard to health-related behaviour. To this end the Win-LIFE intervention has aimed at enabling both learners and their families to establish a base for future healthy behaviour and lifestyles through the transmission of knowledge.

According to Beecher and Sweeny (2008) strategically blending differentiated curricula with enrichment of teaching and learning holds the potential to improve the achievement of learners. A study conducted by Beecher and Sweeny (2008) aimed at enriching an existing curriculum by means of guidance to and collaboration with parents and teachers with regard to learner motivation, strategies to engage learners in their own learning, important parts of the curriculum and instruction, and building on learners' strengths in order to enhance the learning process. The results of their study indicate that such an approach has the potential to increase learner achievement through the active engagement of learners and their motivation to learn, as well as through parental involvement (Beecher & Sweeny, 2008). It can therefore be inferred that such an approach may provide a suitable format for a health promotion intervention.

2.3.3.3 Utilising existing school curricula for school-based health promotion interventions

The existing South African CAPS curriculum can serve as a base from which to implement school-based interventions to address challenges related to poverty and food insecurity. In this regard the South African President emphasised the commitment of the South African Government at the State of the Nation address in 2010 to include health promotion programmes in the current school curriculum. The *Schooling 2025 and Action Plan to 2014* (Department of Basic Education, 2010) of the South African sector specifically aims at reducing poverty and enhancing health through the *Care and Support for Teaching and Learning (CSTL)* (Department of Basic Education, 2008) programme. This programme emphasises the rights of all learners by transforming schools into inclusive centres for learning, care and support. Some of the aims of the *Integrated School Health Programme* (Departments of Health & Basic Education, 2012) are to enhance health and educational outcomes, and to engage learners in their own development.

These aims can be linked to the MDGs of eradicating extreme hunger and poverty, achieving universal primary education, and reducing child mortality (WHO, 2015). The aims furthermore relate to the SDGs of ending poverty and hunger, achieving food security and improved nutrition, promoting sustainable agriculture, ensuring healthy lives, promoting well-being for all at all ages, ensuring inclusive and equitable quality education, and promoting lifelong learning opportunities (UN IEAG, 2014).

As already stated it is widely accepted that the promotion of health and well-being will promote the academic achievement and performance of learners (Kwan et al., 2005). Various studies emphasise the benefits of engaging learners in hands-on activities, whereby they are allowed to apply academic content to real-life situations in a relevant manner (Adams & Hamm, 1998). Blair (2009) underscores the positive effects of making use of experiential gardening programmes in the school context. In the same line of thinking Klemmer, Waliczek and Zajicek (2005) emphasise the value of experiential activities in primary school Science lessons.

Health-related topics can be connected to other topics in the classroom and the broader setting of the school. Several interconnected themes run across the various subject areas at both theoretical and pedagogical level (Young, Leger & Buijs 2013). For example, in a study on oral health promotion in schools by Kwan et al. (2005), the possibility of integrating health topics with other subject areas of the current school curriculum is highlighted. In another study by Klemmer et al. (2005) an experimental group of learners was exposed to both traditional classroom methods coupled with gardening activities. Findings of this study indicate that the experimental group that was exposed to gardening activities performed significantly better in Science, following their exposure to these teaching methods. In addition learners' attitudes towards Science and its usefulness were enhanced (Skelly & Bradley, 2007).

Kim, Park, Cho and Lee (2005) conducted a related study on the effects of school-based nutrition education for a Korean food guide on the food intake frequency of adolescents. This study concludes that such a food guide can improve learners' nutrition knowledge and dietary habits, and promote healthy food intake. The study also highlights the value of long-term and continuous school-based nutrition education programmes where learners can create long-term patterns of healthy food intake.

It therefore seems possible to integrate aspects such as nutrition, food choice, diseases and the structure of the body into the learning content of Life Sciences subjects. Learners can, for example, engage in activities related to health and nutrition education for personal and social well-being. Health promotion can similarly be included in the physical education facet of the Life Skills curriculum. Through Life Skills enrichment programmes such as the Win-LIFE intervention, learners may be able to acquire the knowledge and skills stipulated by the CAPS curriculum in terms of personal and social well-being, as well as physical education – all of which focus on nutrition. In this regard, Skelly and Bradley (2007) indicate that Life Skills development and focused interventions can improve learners' sense of responsibility and their environmental attitudes.

2.4 ENRICHING THE CURRENT GRADE 5 CAPS CURRCIULUM AS PART OF THE WIN-LIFE INTERVENTION

In this section I surmise the current Grade 5[7] CAPS Life Skills curriculum, and then indicate how this curriculum was enriched by means of the Win-LIFE intervention.

2.4.1 Current Grade 5 CAPS curriculum on Life Skills and areas for potential enrichment

According to the CAPS document (Department of Education, 2011) the Life Skills curriculum comprises three study areas. The first learning area relates to *personal* and *social well-being*, and the second to *physical education* where learners are taught about nutrition and exercise, personal and environmental hygiene, chronic illnesses, abuse, sexual and reproductive health, menstruation, contraception, Sexually Transmitted Infections (STIs) and male circumcision (Department of Health and Basic Education, 2012). The third area of the Life Skills curriculum is *creative arts* (See Appendix E).

In the first learning area on personal and social well-being, topics of self-development, health and environmental responsibility, and social responsibility are covered (Department of Basic Education, 2011). *Self-development* includes reading skills, problem solving skills, relationships with peers and older people, abilities, interests and potential self-management, a positive self-concept, dealing with conflict, and experience of working in a group (Department of Basic Education, 2011). More specifically, the *Health and environmental responsibility* topic includes lessons on the dietary habits of children, a healthy environment and personal health, personal and household hygiene, dangers, safety measures and food hygiene (Department of Education, 2011). Based on existing studies it seems possible to use structured interventions to promote the consumption of nutrient rich foods by learners, thereby enhancing their understanding of where food comes from, how it is cultivated, and how it can be prepared (Story et al., 2009). In addition, *social responsibility* can be taught through, for example, vegetable garden interventions or lessons on culture and morals (Department of Education, 2011).

For the second Learning Area of the Life Skills curriculum, physical education, interventions in the form of school garden-driven teaching can promote physical fitness, safety measures, and the use of various parts of the body (Department of Education, 2011). Finally, in terms of creative arts, health promotion can be linked through the design of visual aids, drawing and painting, or developing exhibitions for the school. Furthermore, creative arts (third learning area) can be incorporated in an enriched curriculum when reflecting on learners' experiences of the teaching they have received (Cutter-Mackenzie, 2009).

[7] Although the Win-LIFE intervention involved Grade 4 to 6 curricula, I include only the Grade 5 curriculum in my discussion, due to the focus and participants of this study.

Against the background of the current Grade 5 CAPS curriculum on Life Skills and from the discussions in the preceding sections, it can be concluded that health promotion interventions can be linked to the personal and social well-being content of the current Life Skills CAPS curriculum. The Win-LIFE intervention was designed to address all three study areas of the Life Skills curriculum, as discussed in the next section. This study may thus add to existing literature in terms of how the South African Life Skills curriculum may be enriched to improve the health and well-being of learners, and indirectly that of their families and communities.

2.4.2 Enriching the Grade 5 Life Skills curriculum by means of the Win-LIFE intervention

The aim of the Win-LIFE intervention was to enhance learners' knowledge, skills and attitudes about food and nutrition-related aspects, as well as lifestyle and lifestyle changes. The intervention specifically focuses on the development of social responsibility in terms of food production, food consumption and social change. Additionally the focus falls on changing perceptions, attitudes, and behaviour related to the choice and intake of foods, specifically within a resource-constrained environment.

In line with both the MDGs and the SDGs the *Sustainable Food Production Initiative* in schools forms a sub-programme of the *National School Nutrition Programme* (NSNP) (Department of Basic Education, 2012). This programme encourages schools to emphasise Nutrition Education, the sustainable use of natural resources and acquiring knowledge and practical skills regarding food production. The main objectives of the *National School Nutrition Programme* (NSNP) (Department of Basic Education, 2012) are to improve learning potential through school feeding programmes, encourage and support food production, increase food security in school communities, and reinforce Nutrition Education in schools and communities. In developing the Win-LIFE intervention and enriching the Grade 5 Life Skills curriculum, the *National School Nutrition Programme* (NSNP) was used as basis.

The Win-LIFE intervention focuses on increased knowledge, attitudes, perceptions, values and nutrition behaviour. Hunger, hidden hunger, food and nutrition insecurity and malnutrition are addressed as part of the intervention. In terms of enriching the Grade 5 Life Skills curriculum, the following themes are incorporated in the Win-LIFE Nutrition and Environmental Education programme (the teacher manual is included as Appendix F and the learner workbook as Appendix G): increasing 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. All the themes covered as part of the Win-LIFE intervention contain background information and instructions for the implementation of the activities for educators, classwork and homework activities for learners, and information for parents.

As the Win-LIFE intervention followed an experiential, hands-on approach to encourage learners to take responsibility for their own learning, and to interact with their peers and their family when doing home-based assignments, the intervention had the potential of enhancing social relations skills, problem-solving, conflict management and group work. The intervention encouraged learners to practise personal health and hygiene, thereby raising awareness of potential dangers and safety measures with regard to food hygiene (first learning area of the Life Skills curriculum). Physical fitness as well as the implementation of safety measures (second learning area of the Life Skills curriculum) is promoted through the use of experiential, hands-on activities such as creating school-gardens. Finally, the enriched curriculum encourages creation in 2D through the use of reflection activities in the workbooks (third learning area). The manner in which the current Grade 5 CAPS curriculum was enriched through the Win-LIFE intervention is summarised in Table 2.1.

Table 2.1: Enriching the Grade 5 CAPS Life Skills curriculum

Study Areas in the Life Skills curriculum	Themes of Study Areas	Themes included in the Win-LIFE intervention
Personal and social well-being	• Development of the self	• Interactions with peers and family members throughout.
	• Health and environmental responsibility	• 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.
Physical Education	• Promoting physical fitness and the use of various parts of the body	• Principles underlying preparing a vegetable garden, planting and sustaining the vegetable garden.

	• Invasion, target and striking and fielding games
	  • Rhythmic movements
	  • Basic field and track athletics, and swimming
	• Smooth movement sequences
	  • Safety measures	

Creative Arts	• Visual literacy	• Reading labels on food products.

	• Create in 2D • Create in 3D • Warm up and play • Improvise and create • Read, interpret and perform • Appreciate and reflect	• Drawing in workbooks.

2.5 CONCEPTUAL FRAMEWORK FOR THE STUDY

The conceptual framework for this study is based on an integration of Bronfenbrenner's model of social-ecological transaction (Bronfenbrenner, 1979)[8] and the theoretical framework of Ozer (2006). My explanation of the two theories and conceptual framework follows.

2.5.1 Bronfenbrenner's socio-ecological transaction model

Bronfenbrenner's (1979) socio-ecological transaction model considers children's development within the context of the various systems in which they function. The model is based on the premise that an individual does not develop in isolation, but rather develops within a number of natural environments (Shaffer & Kipp, 2010). According to Bronfenbrenner and Morris (1998) child development occurs within situations characterised by interactions between the individual and other people, objects and symbols found in the environment. Change in any part of the system will affect its surrounding structures and ultimately the individual. Such interactions are only significant in affecting development if they occur consistently for a significant period of time. The socio-ecological transaction model of Bronfenbrenner (1979) therefore acknowledges the impact of the entire ecological system in which a learner functions on child learning and development. Based on this theoretical framework, Rafiroiu and Evans (2005) acknowledge that schools can be viewed as a potential environmental influence on a child's dietary behaviours, due to the interdependence of the domains.

Four socially organised systems are identified by Bronfenbrenner, namely the micro-, meso-, macro- and chronosystem (Bronfenbrenner, as cited in Gauvain & Cole, 1996). The microsystem refers to the direct interactions within one's immediate environment, such as family, friends, teachers and the school. The mesosystem involves the interaction between facets of the microsystem, such as teacher-family interactions (Barnard, 2013). The macrosystem entails the broader context, which the individual does not have direct contact with, such as the influence of broader society values, curriculum development and politics. Finally, the chronosystem refers to the dimension of time and the change that it brings to each of the other systems (Bronfenbrenner, as cited in Gauvain & Cole, 1996).

[8] I acknowledge the fact that Bronfenbrenner (1979) is a dated source, yet as it is the original source of the socio-ecological transaction model I include it in this mini-dissertation.

The microsystem becomes more complex once a child begins school (Shaffer & Kipp, 2010) and therefore the influences of such a system on learning need to be acknowledged. This includes the influence of teachers, schools, friends and family. The mesosystem entails, among others, the influence of the curriculum, and the quality of instruction or value of learning on an individual's ability to learn (Gottfried, Fleming & Gotfried, 1998; Luster & McAdoo, 1996). Christenson and Sheridan (2001) point out that in order to understand a child's process of learning and any difficulties the child may experience, it is necessary to consider the vital input of the parent and teacher. According to Barnard (2013), Bronfenbrenner proposes an essential partnership between parents, school and children in terms of child development. School is a vital context, and cannot be perceived as being compartmentalised and separate from the rest of the individual's life (Richardson, 2009). Factors such as these need to be considered when studying the effects of an enriched curriculum (Shaffer & Kipp, 2010).

In addition to the various systems, Bronfenbrenner acknowledges four specific components of development, namely process, person, context and time. *Process* refers to the proximal or short-term influences of the immediate surroundings, whereas *person* entails the influence of other people such as family, caregivers or peers on the individual's development. *Context* involves the four systems, namely the micro-, meso-, macro- and chronosystems. Lastly, *time* refers to the change that occurs over a period of time (Wachs & Evans, 2009).

2.5.2 Ozer's framework of the proximal and distal effects of interventions

Ozer's (2006) framework of proximal and distal effects systematically considers the direct and indirect effects and influences of interventions, such as school garden programmes, through conceptual framing. Ozer's (2006) ecological model draws on the transactional model of Bronfenbrenner (1979), thereby acknowledging that any learner is nested within various systems, which reciprocally influence one another. Ozer's model can be applied to the Win-LIFE intervention based on its premise that all areas of one's life are interdependent. Therefore changes within the school setting can create change at home and ultimately in the community. Ozer (2006) indicates that enrichment programmes, such as school-gardening programmes, can result in the enhancement of academic, social and health-related domains.

Ozer's (2006) model acknowledges both proximal and distal effects of interventions or change. Proximal effects refer to short-term influences, whereas distal effects are those that are long-term in nature. Ozer's model is based on the premise that there are a number of possible ways to enrich the healthy development of learners through school garden programmes. These include nutritional intake, academic engagement and achievement, and a sense of connection with the school, enhancement of the family-school relationship, as well as the school's connection with the broader community.

The potential proximal effects of a school-based vegetable garden programme, or in this case, an enriched curriculum, can, for example, include exposure to food types, fruits and vegetables, and an increase in positive attitudes to eating fresh produce or healthy food. Proximal effects within a school could include the creation of new settings where learners can play and interact, as well as enhancement of school aesthetics. On the meso-level, proximal effects of the Win-LIFE intervention relate to the potential of increased communication between the school and family of a learner, and inclusion of family and community members in school-based activities. The subsequent proximal effects on a family may include an increase in family members' knowledge of nutrition, food, systems and resource conservation (Ozer, 2006).

Distal effects, however, may include learners' intake of fresh produce, a decrease in at-risk behaviour and improved academic performance. Possible distal effects on the school environment include increased pride of the school amongst learners. On the meso-level an increase in networking, enhanced sense of school community and collective efficacy may follow. Possible distal effects on the family system include improved eating habits of families, as well as changes in families' resource conservation behaviour (Ozer, 2006). In applying this to an enriched Life Skills curriculum, implemented as part of the Win-LIFE intervention, the possibility existed that learners, families and communities may have benefited on various levels due to the specific content included and the mode of delivery applied.

2.5.3 Integrating the frameworks of Bronfenbrenner and Ozer

For my conceptual framework I related Bronfenbrenner's view on the influence of reciprocal interactions between the various identified systems, in which a learner is nested, to Ozer's (2006) proximal and distal effects of school-based garden interventions. I integrated the potential influences of Ozer's health promotion intervention into the various systems identified by Bronfenbrenner, and furthermore into proximal or distal categories as identified by Ozer. This circular, systemic diagram (See Figure 2.1) provides an idea of the interdependent nature of the various systems in which a learner is nested, and the influences that these may have on the learner. Figure 2.1 illustrates how I integrated the two theories into a conceptual framework, which guided me in undertaking this study and interpreting the results I obtained.

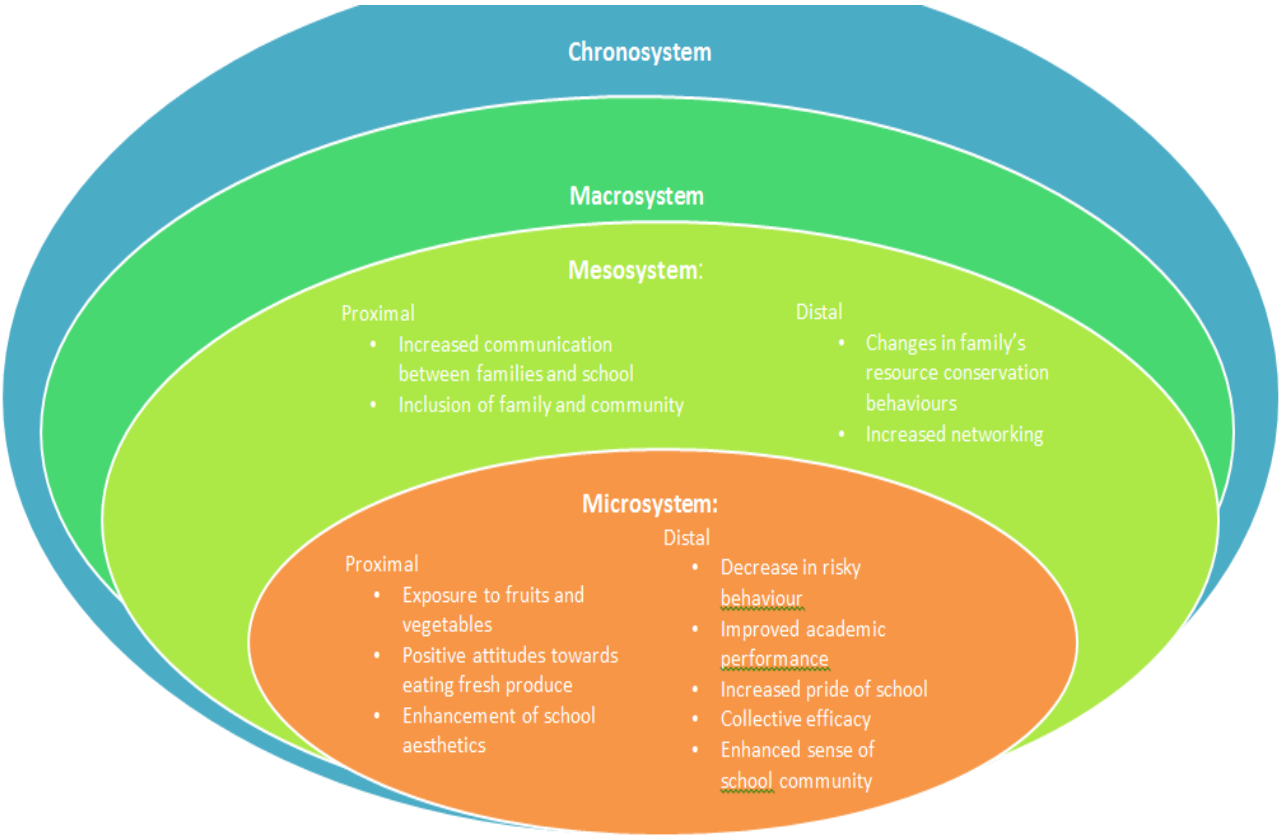

Figure 2.1: Conceptual framework of the study

Even though a school-based vegetable garden project does not directly relate to the teaching of the Grade 5 Life Skills curriculum as was done in the Win-LIFE intervention, the basic premise of Ozer's (2006) theory can be applied to the experiential learning principles applied during the Win-LIFE project. Integrating Bronfenbrenner's (Bronfenbrenner, 1979; as cited in Cicchetti & Lynch, 1993) and Ozer's (2006) models thus resulted in my view that the proximal and distal effects of the Win-LIFE intervention can be considered within the micro-, meso-, macro- and chronosystems in which any learner functions. This model is based on the approach postulated by Bronfenbrenner (1979) that health is influenced by environmental sub-systems, which include intrapersonal aspects, interpersonal interactions, as well as various group, institutional and community factors (Wilson, 2009).

The various systems may therefore have an influence on learners' academic performance, their knowledge of nutrition and well-being, their level of participation in physical activities, their food preferences and attitudes to healthy food-related practices, as well as to communication and social interactions. As nutrition comprises many complex relationships between people and food, advertisements, television and culture may all influence perceptions of food and subsequently the eating habits of learners and their families (Donald et al., 2010; Ozer, 2006). Based on the integration of the two theories that acknowledge ecological and transactional factors on human development and learning, health promotion efforts that are multifaceted in nature may be beneficial in attempting to address the

various systems in which learners function. These may in turn have a positive or negative effect on learners' dietary intake, physical activity and weight-control behaviour (Wilson, 2009).

2.6 CONCLUSION

In this chapter I explored existing literature on current health-related behaviour and challenges in the South African context, including aspects such as the effects of malnutrition on families, factors that influence health-related behaviour, and poverty as an underlying influence. I discussed potential approaches to addressing health-related challenges, and also a suitable format for health promotion interventions with learners. Next I presented the current Grade 5 Life Skills curriculum and contemplated the possibility of enriching the curriculum, and the manner in which it was eventually done as part of the Win-LIFE project. Finally I explained the conceptual framework of the study.

In the following chapter I discuss the research methodology implemented in the study. I explain the selected interpretivist epistemological stance I took and the qualitative methodological approach I followed. I also justify my decision to utilise a case study design, implementing PRA principles, and then elaborate on my selection of the research sites and participants, data generation and documentation techniques, and data analysis I completed.

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CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In the previous chapter I discussed health-related behaviour and challenges as prevalent in South Africa, referring to the effect of malnutrition, which is often associated with poverty, on families. I focused on food-related trends in resource-constrained communities in South Africa, and then explored potential ways of addressing health-related challenges, a suitable format for health promotion interventions with learners, and how change can be facilitated by means of an enriched school curriculum. More specifically, I contemplated the potential of enriching the Grade 5 CAPS curriculum on Life Skills, and the way in which this particular curriculum was enriched as part of the Win-LIFE intervention. I concluded the chapter by explaining the conceptual framework of the study.

In this chapter I discuss the paradigmatic stances I took during this study. I explain the research methodology in terms of the selected research design, selection of the research site and participants, and the process of data generation and documentation. I also describe the data analysis I completed, and present the ways in which I strived towards honouring quality criteria and following ethical guidelines. I also reflect on my role as qualitative researcher.

3.2 PARADIGMATIC PERSPECTIVES

Denzin and Lincoln (2000) define a research paradigm as a basic framework that guides the philosophical assumptions of a study. It also directs the selection of research instruments, participants and methods that are utilised.

3.2.1 Epistemological paradigm

I utilised an interpretivist epistemological paradigm, which is based on the premise that reality is socially constructed in various ways (McMillan & Schumacher, 2010; Wu & Chen, 2005). An interpretivist paradigm interprets an event or practice by taking the specific social context in which it occurs into account. People's behaviour is determined by their particular worldviews, making it important for the researcher to comprehend and grasp the social world from the participants' perspectives (Neuman, 2006). Cohen et al. (2007) emphasise the importance of the individual, thereby enabling the researcher to make sense of the participants' subjective worlds. It follows that this paradigm emphasises values and context, rather than numbers (McMillan & Schumacher, 2010).

Utilising the interpretivist paradigm thus allowed me to respect multiple constructions of reality. It enabled me to consider the outcome of the Win-LIFE health promotion intervention from the participants'

perspectives, and acknowledge the influence of their surrounding social context on their own perceptions and experiences. PRA-based workshops allowed me to gain insight into the learners' views and opinions regarding the enriched Life Skills curriculum. The learners were asked to reflect on the knowledge and skills they had acquired through the intervention, on what they liked, and on what could have been done differently. Following an interpretivist approach furthermore allowed me to consider the perspectives of a number of different learners.

3.2.1.1 Advantages of utilising Interpretivism

As stated, Interpretivism allows the researcher to consider participants' actions and languages in their natural contexts. This results in the possibility of information being fully appreciated (Williamson, 2000). Thereby the researcher is able to understand the participants' sense making through interpretation within the natural setting in which a phenomenon occurs (Denzin & Lincoln, 2005). To this end the Win-LIFE intervention was implemented and data generation conducted within the learners' natural school setting. Interactive activities were included, such as the making of matrices (posters), which allowed the learners to reflect on their experiences in a creative way.

Williamson (2006) refers to the advantage of interpretive research being well suited to "why" and "how" questions that require in-depth exploration. The nature of this paradigm is thus well aligned with this particular study. Wu and Chen (2005) state that new knowledge can be generated in this manner, which can in turn be utilised for future research and practice. Although the nature of this study is case specific, which inevitably limits generalisability, the results and conclusions can be used as a base from which to conduct further research in other related contextual settings.

Another advantage of Interpretivism is that the researcher is actively involved in the interpretation of data (Radnor, 2002), and thus plays an active role in the knowledge that emerges (Chesebro & Borisoff, 2007). Through active involvement in the data generating process, I was able to adjust strategies when needed. Sound relationships between the learners and me (and my co-supervisor and co-researcher), as well as influential situational constraints (Klein & Myers, 1999) offered other advantages of utilising interpretivism for this study. In addition the flexible nature of the interpretive paradigm implied the possibility of unanticipated data emerging during the research process (Wu & Chen, 2005).

3.2.1.2 Challenges associated with interpretivism

Chesebro and Borisoff (2007) identify subjectivity, lack of generalisability, questions around trustworthiness due to the small-scaled nature of interpretive studies, a time-consuming nature and the possibility of ethical violations as potential challenges related to interpretivism (Mack, 2010; Koch, 1995; Lowenberg, 1993). Furthermore, as the possibility existed that participants could have modified the

images they projected (Chesebro & Borisoff, 2007) fabrication of responses may have potentially occurred (Wu & Chen, 2005).

In an attempt to address these potential challenges, I remained aware of my biases and subjectivity throughout the study, and how these could influence my research. Jackson, Drummond and Camara (2007) are of the view that a reflexive approach can deter subjectivity. I regularly reflected in my reflective journal and entered into reflective discussions with my supervisors and co-researchers.

Williamson (2006) acknowledges the potential challenge of Interpretivism requiring a small sample, due to extensive time and costs required to conduct interpretive research. This study made use of a small sample of learners to gain a deep understanding of the experiences of the learners. Even though this may be seen as a limitation in terms of the generalisability of the study as stated previously, generalisation was not the aim of this study. I rather focused on an in-depth description of the experiences of selected learners following the implementation of a specific health promotion intervention.

According to Knight (2002) interpretive studies are context specific, which once again implies that findings cannot be generalised to other populations. This, however, does not indicate that the results of this study have no meaning, or are not significant. In this regard Somekh (2006) states that it is important to make clear claims about the results of an interpretivist study, its statements, possibilities and probabilities. As researcher I thus aimed at reporting on the conclusions of the study, and why and how I view the findings as important. I also invite readers to determine for themselves the extent to which these results speak to other cases, events and populations and may thus be transferable to similar contexts (Knight, 2002).

Discursiveness of participants' answers is another challenge associated with Interpretivism, according to Williamson (2006). The nature of such responses may result in difficulty with regard to organising answers into manageable categories. Williamson (2006) responds to this challenge by stating that broad responses are an inevitable part of human nature and cannot be avoided when studying human activity and experiences. A final possible limitation of utilising an interpretive paradigm relates to the challenge of fully accounting for the complexity of historical, social, structural, economic and environmental influences on human experience (Koch, 1995; Winters, 1999). While it could be said that no paradigm fully encompasses the complexity of influences on human experience, I remained aware of this limitation, and acknowledged it throughout the research process, also in related documentation and report writing.

3.2.2 Methodological paradigm

I followed a qualitative methodological approach. Qualitative research recognises the presence of multiple realities (McMillan & Schumacher, 2014) and describes various aspects of the social world being studied

as perceived by the participants. This approach is based on the analysis of data that is typically obtained through interviews, observations, documents and artefacts (Sandelowski & Leeman, 2012). Participants' understandings and explanations are acknowledged as complex, and are derived from multiple perspectives. The emphasis falls on participants' understanding, descriptions, labels and the meanings they attach to experiences (McMillan & Schumacher, 2014).

Qualitative research typically occurs in a natural setting, allowing for the observation of participants' behaviour. The focus of such research often falls on how and why behaviour occurs, and may thus result in an in-depth understanding of particular behaviour (McMillan & Schumacher, 2010). Qualitative research allows for new theory to be derived by creating a realistic picture of participants' social lives with the aim of bringing together the various details of a study into a comprehensible depiction, model or set of interrelated concepts (Neuman, 2006). The design of a qualitative study will typically evolve as the study continues (McMillan & Schumacher, 2010).

3.2.2.1 Advantages of qualitative research

The value of conducting qualitative research in this study was that it provided me with the possibility of obtaining, as Houser (2009) puts it, a detailed understanding of the phenomenon at hand, which Marshall and Rossman (1999) feel can provide a more detailed account of the complex nature of social interactions, taking into account the meaning that the participants attribute to interactions, while being contextually sensitive. I explored the experiences of learners, in order to provide rich descriptions, thereby acknowledging detail, and not viewing anything as insignificant.

A qualitative approach provides for a comprehensive understanding of the research setting, as well as for reflections on the complexity of human behaviour (McMillan & Schumacher, 2010; Houser, 2009). I was able to gather detailed information on the knowledge and skills acquired by the learners, following the Win-LIFE intervention, which would perhaps not have been as extensive had a quantitative approach been followed (Houser, 2009). The selected approach therefore provided a complex understanding and explanations, which I view as relevant, as no simple explanation for behaviour and experiences exists. Multiple factors could therefore be acknowledged in this study.

Following a qualitative approach ensured a process-oriented approach, allowing for conclusions that may explain the reasons for results. As the design was emergent in nature, I entered the research field as if I knew very little about the experiences of the learners regarding the enriched curriculum (McMillan & Schumacher, 2010). As a research team we were able to conduct research making use of our skills as researchers, and to adapt as needed while in the field. We followed a flexible approach that did not require extensive resources and materials (Houser, 2009).

3.2.2.2 Challenges associated with qualitative research

Challenges I faced as a qualitative researcher included the possible influence of bias, a lack of consistency in data generation and limited generalisability. Bryman (2001) states that qualitative research can be regarded as subjective, and thus impressionistic, utilising the researcher's unsystematic views of what is significant. However, through reflexivity I was able to address the potential influence of bias. Peer debriefing furthermore supported consistency in data generation activities (Jackson et al., 2007). My supervisors, co-researcher and I engaged in regular discussions on the research process, allowing us to reflect continually.

As already indicated, generalisability was not the aim of this study based on the specific focus and selected epistemological paradigm. I thus rather focused on gaining an in-depth understanding of a particular phenomenon, being learners' experiences of an enriched curriculum in a specific area and community. In terms of generalisability I as a result remained clear about the claims made with regard to findings and conclusions.

Other challenges often faced by qualitative researchers relate to qualitative research being time consuming, and possibly requiring intense involvement (McMillan & Schumacher, 2010). It is not always possible to account for the complexity that is inevitably involved in studies focusing on human behaviour and experiences; however, I acknowledged this limitation and allowed enough time for the research process and report writing.

An additional challenge that is frequently posed is that qualitative research may lack transparency in terms of how it was conducted, and can therefore be unclear about the process, or the steps utilised during data analysis. In this study the research team continually strived to be clear concerning what had been done and how particular conclusions were drawn (Bryman, 2001). I documented the entire process in great detail through the use of a reflective journal and field notes. In this way I could maintain an audit trail.

3.3 RESEARCH METHODOLOGY

Research methodology is defined by McMillan and Schumacher (2014) as the design of a particular study. This comprises the selection and description of a research site, the time and length of the study, the participants and sampling procedures, the role of the researcher, and the initial entry in preparation of data generation and documentation.

3.3.1 Research design

I implemented a case study design, applying PRA principles. Mouton (2001) describes a case study design as the in-depth exploration and description of a small group of participants. This implies an empirical inquiry that aims at exploring a phenomenon in its natural, real-life setting, specifically when the

boundaries between a phenomenon and context are not clearly set. Case studies rely on the previous development of theoretical propositions (Yin, 2003*a*), and aim at exploring a number of set characteristics or features over time (Neuman, 2006). In support, PRA primarily focuses on the subjects of a study with the aim of increasing understanding and insight in terms of participants' life worlds (Mouton, 2001).

PRA emphasises the participation of subjects in a study, which is based on the assumption that participants can become aware of their own conditions and then bring about change and improve their own situations (Neuman, 2006). PRA can be used in many contexts (Cohen et al., 2007) and allows for increased understanding, improvement and reformation of practice (Ebbutt as cited in Cohen et al., 2007). The current study has the potential of change within learners' lives and those of their families and the broader community. As an awareness of health and health-related practices as well as the necessity for health promotion was emphasised, change in the food-related practices of the learners could be facilitated.

Yin (2003*b*) identifies six types of case studies. Case studies are firstly categorised as either single or multiple in nature. Single or multiple case studies can furthermore be classified as exploratory, descriptive (causal) or explanatory. Single case study designs concentrate on one case only, while multiple case study designs focus on two or more cases within one study. Both single and multiple case study designs can thus be typified as exploratory, descriptive or explanatory.

Descriptive case studies generally describe interventions and the real-life settings in which these occur, thereby illustrating particular topics within an evaluation through description. Explanatory case studies typically explain presumed causal links in real-life applications (Yin, 2003*b*). This particular study involved a single case study design, focusing on one particular case. The case study was exploratory in nature, as the aim was to explore the experiences of Grade 5 learners of a specific phenomenon in a specific school.

The application of PRA principles in this study involved the utilisation of a bottom-up approach, whereby I recognised the capabilities of the participants throughout the study. I assumed that there were no experts, which required of me to respect the multiple perspectives of the learners, and remain open and willing to learn from others, as proposed by Chambers (2003). As such I maintained the notion that local problems require local solutions, and focused on the participants' assets, acceptance of diversity and the idea that no single truth exists. Finally, by implementing PRA principles, I assumed that positive change may lead to empowerment of the participating learners, as proposed by both Bhandari (2003) and Percy (1999). The premise of such an approach lies in the possibility of a sense of ownership of the research process or initiative being fostered, which may in turn lead to more long-term and sustainable change in the community (Chambers, 2003).

3.3.1.1 Advantages of a case study design applying PRA principles

Data generated through case study research is typically extensive in nature (Neuman, 2006), allowing for a deep understanding of the complexity of real-life situations. Case study research thus implies in-depth insight into phenomena and good rapport with participants (Zaidah, 2003). As case study research allows for the data to be analysed within the context of use (Yin, 1984), the number of variables that need to be considered can be limited (Zaidah, 2003).

PRA aims to integrate social investigation with educational work (Holman, 1987). It implies a collective effort by researchers and research participants to enhance, control and transform knowledge. Active involvement of the research participants is key (De Vos, Strydom, Fouche & Delport, 2005) with the research process becoming a resource to the participants (Babbie, 2001), thereby providing them with a sense of power through access to information (De Vos et al., 2005). PRA was chosen for this particular study as it involved research within a resource-constrained South African community on health and health-related practices. The study aimed at bringing about a problem solving mentality, where community members (learners) could take responsibility to pursue healthy food-related practices.

In implementing a case study design applying PRA-principles I was able to actively involve learners as participants. The concrete creative PRA-based data generation strategies were particularly suitable for Grade 5 learners, who seemingly enjoyed the activities while gaining from the process (Bless & Higson-Smith, 2000; Van Rooyen, 1998). The reflective nature of this study, in terms of the experiences of the learners, and the knowledge and skills they acquired furthermore allowed the participants to apply their reflections in their own lives in a sustainable way.

3.3.1.2 Challenges associated with a case study design applying PRA principles

This study involved Grades 5 learners from one school in the Bronkhorstspruit area, hence a narrow focus on a specific population group. A case study design typically limits generalisability of the results, and the measures used are not standardised (Mouton, 2001). As already stated, generalisation was not an aim of this particular study. Instead, an in-depth understanding of the participants' experiences could be acquired from one demographic area. Sufficient detail was obtained and reported on through the data generation and analysis processes. This formed a basis from which further research could be conducted.

Potential challenges related to PRA-based research concern participants not showing long-term commitment, power balance issues and egalitarian relations (MacDonald, 2012). It is therefore important, according to Gillis and Jackson (2002), that researchers remain sensitive to the various forms of leadership that are required at different stages in the research process. It is also vital that participants are clearly informed of the purpose of the research, and notified that it may be a time consuming endeavour, and that it requires commitment. This study explored the experiences of Grade 5 learners,

requiring their voluntary participation after school hours, first for attending 10 intervention sessions over a period of 10 weeks, and then to reflect collaboratively on their experiences for data generation purposes. Throughout the participants were provided with information about the purpose of the study, and what the study required of them.

Another challenge related to case study research applying PRA principles is that this type of data generation and analysis can be time consuming and complex (De Vos et al., 2005). As stated, the learners volunteered their time, after school hours, to this study and to the preceding Win-LIFE intervention. They remained positive and committed for the duration of the study, despite the time required of them. As I was committed to gain a deep understanding of the learners' experiences I allowed sufficient time for data generation and analysis.

Finally, the possibility of cross cultural application posed another potential challenge (De Vos et al., 2005), as the enriched curriculum was implemented by white women with African learners, implying differences in terms of home language, culture and socio-economic status. As a result I ensured that I was informed of the culture of the participants prior to the data generation sessions. I constantly monitored their sensitivity to and awareness of cultural differences, and regularly engaged in personal reflection and debriefing sessions with my supervisors and co-researcher.

3.3.2 Selection of case and research participants

For this study I purposefully selected 31 Grade 5 learners from one of the schools that have been participating in the Win-LIFE intervention since 2012, thus utilising convenience sampling to select the school. McMillan and Schumacher (2010) describe convenience sampling as the process of involving participants who are readily available. Convenience sampling is thus a relatively easy sampling strategy. It is a cost and time effective sampling technique (Smith, 2007). Potential limitations of convenience sampling include that it can lead to under-representation or over-representation of a particular group within a sample, and that inherent bias may influence the results (Hedt & Pagano, 2011). I acknowledged the possibility of under- or over-representation of a group throughout the study, and aimed at preventing the influence of bias by means of detailed observations, field notes, and debriefing and reflection sessions with my supervisors and co-researcher.

Purposive sampling occurs when participants are selected based on their meeting specific criteria (McMillan & Schumacher, 2010). Purposive sampling is well suited to exploratory research (Neuman, 2006), such as this particular study. It is a non-random form of sampling that locates potential participants that can be informative when exploring a particular phenomenon (Neuman, 2006) and focuses on the particular interest at hand (De Vos et al., 2005).

According to De Vos et al. (2005) it is important to think critically about the parameters of the population when using purposive sampling, and to choose participants accordingly. The 31 participants for this particular study were selected according to the following selection criteria:

- All participants were in Grade 5 in the selected school situated in Bronkhorstspruit.
- Participants had been taught Life Skills as part of the Win-LIFE intervention.
- Participants were able to communicate in English.
- Participants were available to participate in data generation activities after school hours.
- Participants were willing to participate and provided informed assent, with their parents providing informed consent for their participation.

Purposive sampling aims to ensure that participants involved in a study possess the necessary characteristics to fit the purpose of a study. This approach to sampling will generally allow the researcher to focus on a specific aspect of the phenomenon that is being studied (Macnee & McCabe, 2008). Purposive sampling is beneficial as knowledgeable individuals can be involved in this way (Tongco, 2007).

However, the validity of this non-random sampling technique and the selected informants can pose challenges. As such, it was important for me to remain aware of the knowledge and skills of the participants (Tongco, 2007), and to be observant of any potential biases (Seidler, 1974). Throughout the research process I remained consciously aware of the understanding and abilities of the participants. I relied on detailed observations and field notes, as well as constant collaboration and debriefing with my supervisors and peers.

3.3.3 Data generation and documentation

Qualitative data were generated by means of PRA-based workshops and observations during implementation of the Win-LIFE intervention and the PRA-based activities following the intervention. For data documentation I relied on field notes, audio and visual data documentation strategies and a reflective journal (Cohen et al., 2007).

3.3.3.1 PRA-based workshops

I co-facilitated two PRA-based workshops of two hours each with 31 learners. Workshops were conducted in October 2015 after school over two days. For each of the PRA-based workshops learners worked in small groups, discussing questions posed to them and then reporting back to the bigger group.

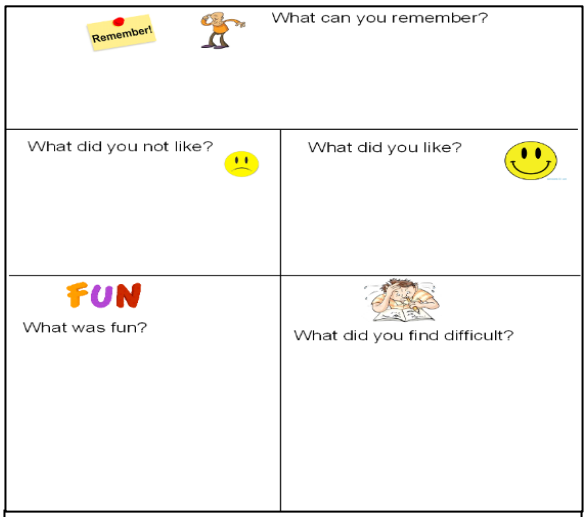
During the first workshop the various groups were each given one of the broad topics of the nutrition education curriculum, and asked to create posters on the specific topic (See Photograph 3.1). Learners first reflected on their ideas in small groups and then as a larger group of learners. This was

followed by an activity focusing on what learners had taught their families about each topic area. Prompts were provided in matrices to guide the learners, as captured in Photograph 3.2. All discussions were audio-recorded and later transcribed verbatim.

Photograph 3.1:
Group 4's poster on food safety and storage

Photograph 3.2:
Poster with prompts to guide learners' reflections on what they had taught their families

During the second PRA-based workshop learners were asked to complete posters on what they remembered about the activities that had formed part of the Win-LIFE intervention, what they liked about the enriched Life Skills curriculum, what they did not like, what they found difficult and what they had enjoyed. Next, each group was provided with a variety of food items, and a large plate image on a poster. Each group was requested to compile a breakfast, lunch, or supper plate, using real-life food items provided to them, based on what they had learned during the Life Skills subject. Examples of the posters I used on the second day of data generation are captured in Photographs 3.3 and 3.4.



Photograph 3.3:
Prompts for reflection poster

Photograph 3.4:
Group 5's dinner plate

According to Chambers (1994) the aim of PRA-based workshops is to encourage participants to share, improve and examine their knowledge of life and the conditions affecting their lives. PRA-based activities can therefore encourage participants to reflect, which may lead to action and stimulate further reflection (Ebersöhn, Eloff & Ferreira, 2007). PRA has the potential of offering rich contextual information (Ferreira, 2006). Data generation strategies associated with PRA research are inexpensive and allow for advanced, concrete, visual and original approaches which may encourage participants to remain interested, and develop positive rapport (Ferreira, 2006).

Morrison (1998) identifies various strategies to allow for free, open communication between researchers and participants, such as following a participatory approach when making decisions; focusing on shared beliefs, aims and values; taking equal ownership of decisions, practices and responsibility, and maintaining open accountability. As this study forms part of a broader, existing research project, I was able to rely on several of these strategies. More specifically, I was able to communicate with the research participants freely, due to well-established relationships between the research team and the participants, and then apply theory.

I included PRA-based workshops in order to encourage learner participants to share their experiences on the knowledge, skills and attitudes they had gained (or not) when taught Life Skills by means of the Win-LIFE intervention, and on how they could apply this newly acquired knowledge in future. As rushing is identified as a potential challenge when conducting PRA-based activities (Chambers, 1994) I allowed sufficient time for data generation, allowing participants to complete PRA-based activities in a calm, relaxed way.

Following the initial PRA-based workshops I made use of member checking (July, 2016) in order to enhance the rigour of the study and the credibility of the findings I obtained. During the member checking session, I aimed at ensuring that my understanding of the generated data captured a true reflection of the learners' experiences and perceptions (Chambers, 2007). Following thematic analysis of the data generated during the initial workshops, I presented the initial themes and sub-themes I identified to the learners during the member checking session, allowing them the opportunity to correct any misunderstandings or misinterpretations that had occurred (Welman & Kruger, 2001). The member checking session was recorded and transcribed for the purpose of further data analysis (See Appendix J).

For the member checking session, participants once again grouped themselves in small groups. As quite some time had lapsed between the last data generation session (October 2015) and member checking exercise (July 2016) participants at first seemed quiet and not as spontaneous as when concluding data generation the year before. However, after presenting the themes and sub-themes to

them on posters (Photograph3.5), they relaxed and confirmed what was presented to them. They also elaborated on the summary I presented in their small groups.

Photograph 3.5:
Member checking session

3.3.3.2 Observation

Observation entails data generation whereby a researcher listens to, hears and records what is witnessed in the field (McMillan & Schumacher, 2010; Flick, 2009). Observation allows the researcher to learn about participants and their perceptions while observing and interacting with them in their natural settings (De Walt & De Walt, 2002). The researcher is able to study the research participants through exposure and interaction within their everyday or routine activities (Schensul, Schensul & LeCompte, 1999).

This study aimed at exploring learners' experiences of an enriched Life Skills curriculum. I observed the participants during implementation of the enriched curriculum (August to September 2015), as well as the PRA-based data generation activities (October 2015). I documented my observations in the form of field notes, and also captured the observations I made by means of photographs. According to Mulhall (2003) observations always include recordings of physical and verbal responses, and are often captured and documented by means of field notes.

Observation allows for the provision of additional information that can be used to address a research topic (Yin, 2003a). More specifically, through triangulation of data more expressive information can be obtained. In this study, observation of the learners' body language as well as their verbal and non-verbal communication as they engaged in the PRA-based workshops, allowed me to obtain data. Observation furthermore provided me with ways to check for non-verbal expression of feelings, to note the dynamics in the small groups, to determine who interacted with whom, and to grasp how participants communicated with one another *(*Schmuck, 1997).

In this way observation enabled me to obtain data on the learners' perceptions and experiences of the enriched Life Skills curriculum, when they spoke about and reported on their ideas (Yin, 2003a). When designing a research study and determining whether or not to use observation as data generation

method, one needs to consider the types of questions guiding the study, the site under study, available opportunities at the site for observation, the representativeness of the participants of the population at the site, and the strategies that will be used to record and analyse the data (DeWalt & DeWalt, 2002).

Observation, however, implies a number of possible challenges, such as potential bias and lack of quantifiable data (Bell, 2010; DeWalt & DeWalt, 2002). Even though I regard researcher bias as an inevitable factor in qualitative research, I remained aware of my biases, and the possible impact thereof on the study, and monitored my subjectivity throughout the research process. To this end I reflected on my observations with my co-researcher and supervisors during debriefing sessions following field visits, and also regularly recorded my reflections in a reflective journal. Involving more than one observer enhanced the reliability of the study (Yin, 2003a) and the quality of the observations made. Although observations do not yield quantifiable data, they provided me with great insight into the perceptions of the participants, which was the aim of this research.

Another challenge that may be associated with observation as data generation technique is that participants can experience observation as intrusive, especially when revealing sensitive information. It is thus vital that a researcher listens attentively at all times and applies sound observation skills. Gaining rapport with and acceptance by research participants before utilising observation may also pose some difficulty (Creswell, 2002; Merriam, 1998; Bogdan & Biklen, 1992; Schensul, Schensul & LeCompte, 1999).

Yet, as this study forms part of a broad, existing study, and due to the fact that the learners had been part of the Win-LIFE intervention for some months when I engaged in data generation activities, these challenges did not realise in this study. More specifically, as I was involved as field worker in re-implementing the Win-LIFE intervention, learners were accustomed to me by the time I facilitated the PRA-based data generation workshops with them, having established sound relationships of trust at earlier stages. I also made use of interactive, creative activities such as creating plates of food with real-life food items and keyrings of the content covered with the learners, which confirmed the rapport already established.

3.3.3.3 Field notes

An important aspect involved in quality observations in the research field relates to the skill of the researcher to observe, document, and interpret what is seen and heard. Accurate field notes are therefore a vital component of qualitative research, without imposing predetermined categories from the researcher's theoretical viewpoint, but instead allowing them to be generated by the research participants and to arise from their interactions (Schensul, Schensul & LeCompte, 1999).

My co-supervisor compiled field notes (See Appendix H) while observing the Grade 5 learners as they participated in PRA-based activities. Field notes can be described as recordings of the researcher's observations and reflections (McMillan & Schumacher, 2010; Flick, 2009). Notes on structural and organisational features, people, daily processes of activities, dialogues, personal or reflective journals (See Section 3.3.3.4), and reports on special events are some examples of field notes that can be compiled (Mulhall, 2003). For the purpose of this study my co-supervisor specifically recorded details of the research process, participants' contributions and data generation activities, and I relied on these when reporting on the results I obtained.

According to Rosman and Rallis (2003) field notes comprise two facets, namely running records and observer comments. Running records capture data about the research process, detailing the physical environment, activities and interactions among participants. Observer comments comprise data about the research process itself. These include emotional reactions, questions regarding meaning, or researchers' thoughts for modifying the design. Throughout this study I made use of both running records and observer comments. My co-supervisor recorded information about the nature of the school and classroom setting, the activities that participants engaged in, and the interactions that resulted.

A challenge associated with field notes is the effect of a time lapse between data generation while in the field and making field notes, which may have an impact on the trustworthiness of the data (Bell, 2010). In addition my co-supervisor made some notes while in the field and then elaborated on these directly after data generation sessions. Throughout the research process within the field my co-supervisor documented the learners' reactions. I also captured my own reflections in my reflective journal, contemplating the meaning behind the reactions and interactions of the learners, and formulating working hypotheses as the study progressed.

3.3.3.4 Reflective journal

In addition to field notes, I made use of a reflective journal (See Appendix H), which is defined by James, Milenkiewicz and Buckham (2008) as a written or verbal description subjectively compiled by the researcher, of events over time. Flick (2009) acknowledges the importance of continually engaging in self-observation, whereby researchers record their perceptions and impressions during every stage of the research process. I engaged in self-observation at all times, continually reflecting on my own thoughts and perceptions concerning the events that occurred within the research field, and documenting these in my reflective journal.

Murray and Kujundzic (2005) state that a reflective journal implies the documentation of practices that can critically examine and evaluate one's experiences as they unfold, rather than a focus on research outcomes only. A reflective journal allowed me to document my understanding of the learners' subjective

perspectives as they developed and as I formed ideas while the study progressed. The journal furthermore enabled me to reflect on the potential effect of my biases on the participants' contributions and my interpretation of the data, as well as potential ethical dilemmas I could encounter.

As such a reflective journal allowed me as researcher to document my personal research journey, validate the authenticity of the research (Lamb, 2013), analyse, reconsider and qualify my experiences in the field (Murray & Kujundzic, 2005), and facilitate new understanding as I perceived information that I reflected on in writing (Cui, 2012). In addition a reflective journal assisted me in clarifying ideas, and making connections between the various aspects of the research process (Lamb, 2013), thereby linking theory to practice (Schön, 1991). As Jasper (2005) indicates, my reflective journal thus assisted me with the development of an audit trail, and provided evidence of the results for my discussion of the themes and sub-themes in Chapter 4.

Compiling a reflective journal also implied some challenges. A reflective journal can be regarded as subjective. Furthermore Ortlipp (2008) acknowledges the time consuming nature of reflecting in a journal, which can perhaps be viewed as detracting a researcher from the time spent in the research field, "doing" research. In an attempt to address these challenges I constantly remained aware of my own biases and subjectivity. I regularly engaged in discussions with my co-researchers and supervisors regarding my reflections and guarding against the potentially negative influence of biases and subjectivity. I also allowed adequate time for reflective journal keeping, noting brief reflections in the field, and then elaborating on these directly after field visits. Audio and visual data assisted me with this process.

3.3.3.5 Audio and visual data documentation

Throughout this study I included audio and visual data documentation, thereby contributing to the credibility of the study (McMillan & Schumacher, 2010). McMillan and Schumacher (2011) define visual data as photographs of social scenes, documenting non-verbal behaviour and communication. Visual data provides a permanent record, which can be referred to at any stage after field visits have taken place. Photographs and PRA-posters were used as visual data for this study.

Photographs (See Appendix I) were firstly used to capture the social setting of the classroom and interaction between the participants when conducting the PRA-based workshops. Additionally, photographs were taken of the posters made by the learners as part of the PRA-based activities. This provided me with a record of what was produced during the data generation sessions, which I subsequently analysed.

I recorded all PRA-based discussions and transcribed these from the audio data I had obtained (Bell, 2010). Utilising audio data allowed me as researcher to be completely present during observations of the PRA-based activities without having to make notes constantly. Transcriptions and visual data were

thus used alongside the data generated through observation, field notes and my reflective journal. In this manner, audio data supported the selected exploratory research design, providing me with real-time sequential records of the data generation that occurred. It provided me with durable data that can be shared. I was also able to foster discussions and reflections with myself, my co-researcher and supervisors (Jewitt, 2012).

Audio data documentation may pose a challenge when participants are not willing to be recorded (Bell, 2010). No participants in this study indicated a preference not to be recorded. Furthermore, according to Bell (2010), transcribing audio data implies a lengthy endeavour that can take up to four hours for every hour of recorded material. Audio data can also result in vast amounts of data to analyse, which may seem overwhelming to a researcher, and thus needs to be managed with care (Jewitt, 2012). I took all these challenges into consideration when scheduling my research, and organised and managed the research process in a way that could assist me to complete the data analysis and interpretation as planned.

3.3.4 Data analysis

I conducted inductive thematic analysis in order to identify patterns or themes that capture important elements associated with the research questions (Braun & Clarke, 2006) in the data. I followed specific procedures to transfer the data from text to interpretation. To make meaning of the participants' sense-making, I identified various themes from the data (Attride-Stirling, 2001), which were given codes (Guest & McLellan, 2003). Data was subsequently analysed descriptively in these smaller units of information (Vaismoradi, Turunen & Bonda, 2013).

Braun and Clarke (2006) provide guidelines for inductive thematic analysis. These guidelines are familiarising oneself with the data, formulating initial codes, looking for themes or patterns, reviewing identified themes, defining and naming themes, and writing up a report. In following these guidelines I first spent time to become acquainted and familiar with the data captured by means of transcripts, field notes, audio and visual strategies, and my reflective journal, by reviewing all data sources a few times at the start of the analysis process. I then coded the data according to a number of categories I had identified from the data sources, more specifically from the posters the participants had compiled, the explanations they had provided and the notes my co-supervisor had made following her observations (See Appendix H).

Once I had coded the data I searched for recurring themes and patterns that emerged, such as common opinions about what learners enjoyed when being taught Life Skills as part of the Win-LIFE intervention. Next I reviewed the themes I had identified to ensure that these were relevant, and to identify any additional themes I had perhaps missed. I then named and defined the themes to provide a solid

grounding from which to write a research report. Throughout this process I discussed the themes and related sub-themes I identified with my supervisors. I also kept a reflective journal, documenting my thoughts and reflections as I analysed the data.

Through thematic analysis of the PRA-generated data, transcripts, field notes, reflective journal, as well as audio and visual data I was able to explore trends and patterns regarding learners' experiences of the enriched Life Skills curriculum. I thus interpreted the learners' experiences through pattern analysis, and the identification of recurring ideas captured in the data. To enhance the rigour of thematic analysis, Vaismoradi, Turunen and Bonda (2013) suggest more than one coder to code the data independently. They furthermore propose that any researcher should keep a personal research diary (or reflective journal) in order to increase the rigour of the data analysis, as was done in this study.

3.3.4.1 Advantages of inductive thematic analysis

I regard inductive thematic analysis as appropriate for this particular study, as themes and patterns could be analysed as they occurred, thereby allowing for unanticipated responses and outcomes (Braun & Clark, 2006). According to Alhojailan (2012) this approach to data analysis is appropriate when making discoveries using interpretations. It allowed me as researcher to examine both explicit and implicit ideas, related to the experiences of the participants, thereby using interpretations of the learners' responses to the enriched curriculum to make discoveries about the outcome of the enriched curriculum.

Inductive thematic analysis furthermore allowed me to determine the frequency at which identified themes occurred. Relations between the concepts could be identified and linked to the learners' views and opinions. Comparisons could then be made with replicated information, which was gained at differing times during the study (Alhojailan, 2012).

3.3.4.2 Challenges associated with inductive thematic analysis

Challenges associated with inductive thematic analysis include that, if concise guidelines are not followed, thematic analysis can provide the impression that "anything goes" (Antaki, Billig, Edwards & Potter, 2002). Throughout the data analysis process I implemented the guidelines provided by Braun and Clark (2006). The inductive analysis of the data was thus conducted in a predetermined and orderly fashion.

Another potential challenge relates to the flexibility of this form of analysis, resulting in the researcher not knowing which aspects of the data to emphasise. Additionally it is important to ensure that the researcher does not merely develop themes that are directly based on the data generation questions. Researchers need to remain cautious about creating a strong and convincing analysis, as themes need to make sense, not overlap, and be coherent and consistent. Throughout the researcher needs to ensure that there is a good fit between the data and the analytical claims that are formulated (Braun & Clarke, 2006). In this study I discussed the themes and sub-themes with my supervisors to ensure that my

analysis of the data was done in an orderly and effective manner. In this way I was able to ensure that the generated themes were based on the raw data, and not on the predetermined research questions, or my own biases. These strategies strengthened the rigour of the study.

3.4 QUALITY CRITERIA

Trustworthiness refers to the honesty of the information generated during a research process, either about, or from the research participants (Lincoln & Guba, 1985). It provides an indication of the confidence and trust one can have in a study and its findings (Robson, 2011).

3.4.1 Credibility

Credibility refers to the degree to which participants' views correlate with the researcher's representation of the data (Lincoln & Guba, 1985). In order to enhance the credibility of a study the following strategies can be employed: prolonged engagement in the field, persistent observation, referential adequacy of materials, peer debriefing, member checking, triangulation, negative case analysis and reflective journaling (Nelson, 1998; Erlandson, Harris, Skipper & Allen, 1993; Lincoln & Guba, 1985; Guba & Lincoln, 1981).

In support of the credibility of this study I ensured that I was familiar with the Win-LIFE intervention before embarking on my research journey. I attended one of the workshops during which teachers were trained in the intervention in 2014, and acted as co-facilitator when the intervention was re-implemented in 2015. In this manner I became familiar with the research field, and the participants before generating data for this study. I included member checking and also relied on regular peer debriefing sessions with my supervisors and co-researcher. Even though the member checking took place after a rather lengthy time lapse following the data generation sessions, it allowed me to confirm that I had interpreted the participants' contributions as they intended.

Patton (2002) states that triangulation can enhance the credibility of a study, ensuring that the findings of a study do not merely represent one source, method or viewpoint. I made use of triangulation, including and comparing various strategies of data generation and documentation. I noted consistencies in the participants' statements, and regularly consulted my supervisors about my views. Patton (2002) acknowledges the importance of using analyst triangulation, whereby multiple analysts review the data. As already stated I engaged in on-going discussions with my supervisors in order to discuss the events that occurred in the research field, as well as my own subjectivity and potential influence of biases. My supervisors also took part in the data analysis process in an attempt to ensure that the themes and sub-themes I identified represented the experiences of the participants.

3.4.2 Transferability

Transferability relates to the generalisability of the data from a specific case. Adequate information needs to be provided in order to transfer data to other population groups and cases (Lincoln & Guba, 1985). Transferability thus implies the extent to which the information gathered can be applied to other, similar situations, and to other research studies with related research foci and questions (Marshall & Rossman, 1999). Purposive sampling and reflective journal keeping can enhance the transferability of a study (Nelson, 1998; Erlandson et al., 1993; Lincoln & Guba, 1985; Guba & Lincoln, 1981). In this study I employed both these strategies. Triangulation can furthermore support transferability through the use of multiple sources of data (Marshall & Rossman, 1999). In applying this strategy I relied on multiple data sources, namely PRA-generated data, observations, field notes, a reflective journal, and audio and visual data.

Even though the aim of this study was not to generalise its findings, I aimed at obtaining transferable findings. As such I include thick, detailed descriptions of the research and the phenomenon observed, thereby presenting the experiences and events in a detailed manner. By doing so the voices, feelings, actions and meanings of the participants that interacted are provided (Denzin, 1989), enhancing the transferability of the findings. However, it remains the reader's responsibility to decide to what extent the findings of this study can be transferred to similar contexts.

3.4.3 Dependability

Dependability refers to the extent to which a research process is logical, traceable and well documented (Lincoln & Guba, 1985). An audit trail, triangulation of the data and a reflexive research process can be utilised as strategies to enhance the dependability of a study (Stringer, 2004; Nelson, 1998; Erlandson et al., 1993; Lincoln & Guba, 1985; Guba & Lincoln, 1981). An audit trail implies thorough documentation of the research process, including the research problem, data generation, documentation and analysis, and the process of report writing.

In this study I documented the entire research process in detail in support of the dependability of the findings. I compiled an audit trail consisting of records of the research process and how the study was conducted. This includes field notes and photographs of what I saw, heard and thought while conducting the study. I also made use of a reflective journal, which allowed me to document my thoughts and what I experienced in the field, thereby enhancing the dependability of the study.

3.4.4 Confirmability

The findings of a research study need to be verifiable, and thus not simply the researcher's own fabrications of information. Decisions regarding data generation and analysis thus need to be consistent and repeatable (Lincoln & Guba, 1985). In traditional terms, confirmability refers to the objectivity of

findings. As such the findings of a study need to be confirmable by another study (Marshall & Rossman, 1999).

An audit trail of the data analysis process, triangulation, member checking and reflexive research input may enhance the confirmability of a study (Nelson, 1998; Erlandson et al., 1993; Lincoln & Guba, 1985; Guba & Lincoln, 1981). For this study I made use of an audit trail, documenting my decisions about the data generation and analysis I conducted (MacNee & McCabe, 2008). I also used field notes, and documented the process of thematic analysis when categorising and organising the information I obtained.

3.4.5 Authenticity

Authenticity of a study refers to the degree to which the voices of the participants are heard (McMillan & Schumacher, 2014), thus providing a fair, balanced and true account of their social lives (Neuman, 2006). Seale (2000) states that authenticity implies fairness by which participants' various realities and not the subjective views of the researcher are represented. Catalytic authenticity refers to the degree to which participants are empowered to move into action by utilising the knowledge they have gained.

I attempted to remain aware of, and monitor the authenticity of the data by maintaining a detailed account and thick description of how the research participants understood the Win-LIFE intervention, and their experiences thereof (McMillan & Schumacher, 2010; Neuman, 2006). I include quotations of the contributions made by the participants in reporting the results in Chapter 4 (McMillan & Schumacher, 2010) in order to capture their perspectives of the intervention. Throughout I remained conscious of documenting the participants' true voices and thus acquiring an insider view. To this end I audio recorded all sessions, which allowed me to revisit the data whenever I wanted to do so.

3.5 ETHICAL CONSIDERATIONS

Following guidelines for ethical research is important in all research studies, with the aim of preventing harm to participants (Orb, Eisenhauer & Wynaden, 2001). In order to prevent exploitation of the research participants it is necessary to adhere to ethical guideline standards (Morrell, Epstein & Moletsane, 2012; Denzin & Lincoln, 2000). For this study I was directed by the guidelines prescribed by the Ethics Committee of the Faculty of Education, University of Pretoria (Ethics Committee, 2008). I attended to the principles of anonymity and confidentiality, trust, voluntary participation and informed consent (McMillan & Schumacher, 2014; Denzin & Lincoln, 2000).

In keeping ethical guidelines in mind it is important that researchers consider the possible effect of race, class, gender, personal and group history, and social attitudes before commencing with research, and also throughout the research process (Suzuki et al, Ahluwalia, Arora & Mattis, 2007). It is important to keep in mind the role that language can potentially play when conducting research across cultures. Many

subtle nuances and deep meanings are embedded within cultures, which cannot be understood without familiarity with a specific language (Santiago-Rivera & Altarriba, 2002). This needs to be taken into account during interpretation and analysis of the data (Yeh & Inman, 2007). Member checking assisted me in ensuring that I had understood the participants. Furthermore, whenever uncertain about their contributions, I clarified what they intended to say with them.

3.5.1 Permission to conduct research and voluntary participation

Creswell (2003) states that in order to maintain the ethical standards of research, it is necessary for researchers to have their research plans reviewed by a relevant Institutional Review Board (IRB) or overseeing body. The Win-LIFE project was approved at the start of the project by the Ethics Committee of the Faculty of Education, University of Pretoria. In addition the Gauteng Department of Basic Education (GDBE, 2012) provided permission for the project to be conducted in the selected primary schools in the Bronkhorstspruit area.

Glesne (1999) emphasises the importance of informed consent when conducting research, which involves that participants understand what a study entails before commencing with data generation activities, and that participation is voluntary. Creswell (2002) similarly indicates that a consent form for research needs to include information about the voluntary nature of participation, the right of the participants to withdraw from the research at any time, the purpose and procedures of the research, as well as participants' right to ask questions at any time, gain a copy of the results of the study, and have their privacy respected (Neuman, 2006). For this study I obtained written informed consent from the parents of the participating learners (See Appendix A) and also informed assent from the learners themselves (See Appendix B) before I commenced with data generation activities.

Autonomy refers to respecting participants' rights, which includes their right to information about a study, whether or not they would like to be involved in the study, and what they should do when wishing to terminate their participation (Capron, 1989). The participants in this study were provided a sense of autonomy, as their rights were constantly respected and acknowledged by the research team. They were provided with information about the study when obtaining their assent and it was emphasised that they could decide not to take part in the study, or to terminate their participation at any stage of the research process, should they wish to do so.

3.5.2 Confidentiality, anonymity and respect for privacy

Reiss (1979, p. 73) states that the main form of harm in social science inquiry is "the disclosure of private knowledge considered damaging by experimental subjects". Confidentiality and anonymity must be maintained in order to protect research participants from harm through the protection of their identities and the research location (Neuman, 2006; Denzin & Lincoln, 2000). Confidentiality implies the restriction

of access to the data and names of the research participants, while anonymity refers to the use of pseudonyms and disguised locations to ensure that no link can be made between the data and the research participants (Neuman, 2006; McMillan & Schumacher, 2010).

Closely related to confidentiality and anonymity is the importance of the researcher's obligation to safeguard research participants' privacy, and prevent risk, by handling data in a professional and confidential manner (Rubin & Rubin, 1995). The primary focus is to protect the research participants, then the project and lastly, the researcher (Fontana & Frey, 1998, 1994/2000). Throughout this study I maintained confidentiality of the research participants' identities and contributions. I ensured that all data were recorded, and are stored in a safe place at the University of Pretoria for a period of 15 years, as required by the current ethical guidelines for qualitative research. The data include my audio data, verbatim transcripts, field notes and a reflective journal. I did not share any data with individuals outside of the research team and worked with the data in a professional manner, respecting confidentiality. I did not make use of research participants' names in reporting on the study, thereby maintaining their anonymity. In this way I could maintain trust between the participants and myself.

It is vital to protect the privacy and thus the identities of the research participants at all times, throughout the research process (Denzin & Lincoln, 2000). Any researcher thus needs to ensure that she or he deals with the data in a professional and confidential manner (McMillan & Schumacher, 2010). I remained aware of the rights of the participants, including their right to privacy. Privacy was ensured through anonymity, confidentiality and storage of the data in a safe place (McMillan & Schumacher, 2010).

3.5.3 Trust

Guba and Lincoln (1989) state that the deception of research participants implies the risk of gathering information that is irrelevant to a study, as the aim is to discover realities, which are constructed by the research participants themselves. It is important that research participants remain truthfully informed about the study (Neuman, 2006; Denzin & Lincoln, 2000) and that trust is maintained throughout.

The research participants in this study were made aware of the purpose of the research and the process before any data were generated. No deception was involved, and the participants were provided with information in a clear manner, guarding against creating any form of anxiety or stress among them. The learners and their parents/carers were provided with clear and accurate information about the aim of the Win-LIFE intervention, and the intended use of the generated data. Participants were also made aware of their voluntary participation in the research process.

Throughout the Win-LIFE intervention the relationship between the researchers and participants was one of trust, whereby participants were treated as equals and valued role players in the research

process. In undertaking this study I constantly monitored and reflected on my views and perceptions of power and leadership within the research relationship, between me as researcher and the learners as participants, in order to ensure that it was an equal relationship. This process of trust building began when obtaining permission from the learners and their parents/carers to conduct the research voluntarily.

3.5.4 Protection from harm

Beneficence refers to the benefit of a study to the research society, existing literature and research participants (Allan, 2011; Durrheim & Wassenaar, 2002). This study made use of a case study design, applying PRA principles, which focused on engagement with learners. When engaging in research that involves working with people it is important not only to ensure that all involved benefit from the research process, but that all individuals are also protected from harm.

Non-maleficence entails the duty to protect people from harm, and minimise any harm that cannot be avoided (Allan, 2011). In order to ensure non-maleficence, I remained aware of the participants' well-being. No harm was caused to any of the participants, and all potential risks of the study were monitored. I ensured that the information provided to the participants, regarding the data to be generated in the study and how it would be dealt with, was clear and open at all times. It was also important that no tasks were undertaken that were beyond my abilities and skills. I remained in contact with my supervisors throughout the research (Allan, 2011), in order to ensure professional research at all times. As the prevention of physical and psychological harm needs to be ensured at all times (Maree, 2012; Creswell, 2003; Denzin & Lincoln, 2000) I also reviewed any potential risks of the study beforehand (Neuman, 2006). I however did not identify any risks, physical or psychological, which could be foreseen.

3.6 MY ROLE AS RESEARCHER

I, as researcher, was the primary data generation and analysis instrument, and took responsibility for these actions. As I am an educational psychologist in training, I have developed skills in the observation of non-verbal communication. This assisted me when doing observations in the field; however, I also had to remain aware and conscious of not interpreting the non-verbal communication of the participants in a psychological manner, but to be guided by the research questions during such observations (McMillan & Schumacher, 2010; Neuman, 2006). I constantly reminded myself of my role as researcher, and reflected on my observations with my co-researcher and supervisors.

Within my role as primary data generation instrument it was also important to acknowledge that PRA-based research relied on collaborative relationships, characterised by trust between the researcher and research participants, in order to ensure the freedom and integrity of the participants (McMillan & Schumacher, 2010; Neuman 2006). Learner participants were allowed to express their views and opinions about the enriched Life Skills curriculum, in a safe environment, where they felt comfortable.

Participants were treated as experts in the field, and viewed as co-researchers in the process who could provide valuable information about the outcome of the enriched curriculum in that particular setting.

Throughout the research process I was responsible to remain aware of my biases and own subjectivity. In order to do this I continuously reflected in my reflective journal and engaged in discussions with my supervisors. During the data analysis process I also discussed my analysis with my supervisors to guard against bias and subjectivity determining the results I obtained. Furthermore, I included debriefing discussions with my supervisors following all data generation sessions (McMillan & Schumacher, 2010).

3.7 CONCLUSION

In this chapter I discussed the research methodology I utilised for this study as well as the selected paradigmatic lenses and research design I implemented and the manner in which I generated, documented and analysed the data. My discussions include explanations of how I attempted to meet quality criteria, the ethical considerations I followed, and my role as researcher.

In the following chapter I present the results of the study in terms of the themes and sub-themes I identified during data analysis. After presenting these I interpret the themes against the background of existing literature in order to identify correlations and contradictions when presenting the findings. I also highlight new insight stemming from the study.

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CHAPTER 4
RESEARCH RESULTS AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

In Chapter 3 I discussed the research process. I explained the interpretivist paradigm as epistemology and described the case study design and qualitative approach I utilised, as well as the data generation and documentation techniques I employed. Next, I described the data analysis and interpretation I completed. I also reflected on my role as researcher, and on the various ethical considerations and quality criteria I considered in the course of the study.

In this chapter, I report on the results of the study in terms of the four themes and related sub-themes I identified subsequent to inductive thematic analysis of the generated data. I include participants' direct quotations, photographs, field notes and excerpts from my reflective journal to support the identified themes. I then present the findings of the study by relating the results against the background of existing literature, whilst emphasising similarities, contradictions and silences I identified. I also indicate new knowledge in this field of research.

4.2 RESULTS OF THE STUDY

In this section I discuss the four themes and related sub-themes I identified through inductive thematic analysis of the data. Figure 4.1 serves as an introduction that provides an overview of the themes and sub-themes of the study.

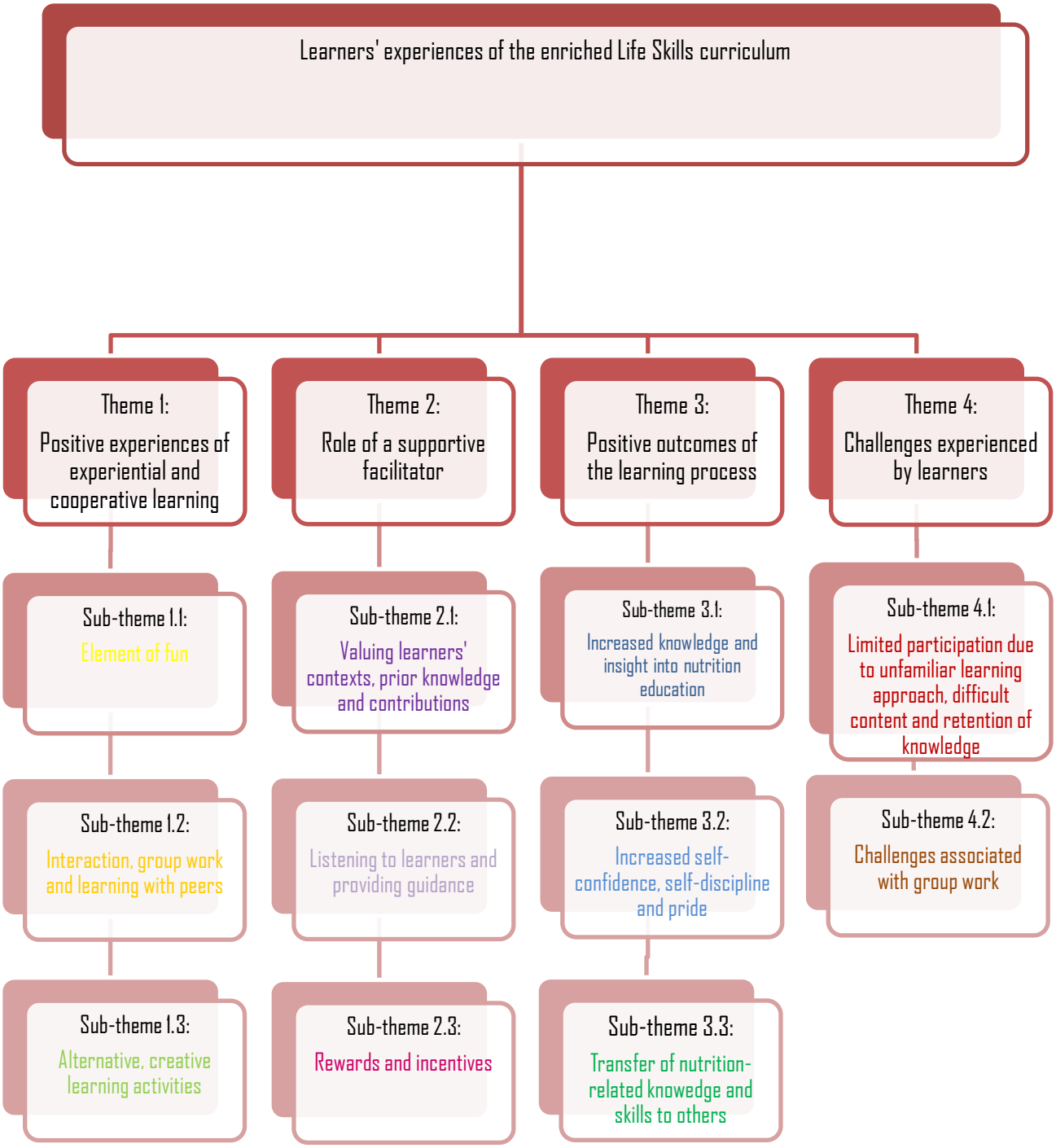


Figure 4.1: Overview of themes and related sub-themes

4.2.1 Theme 1: Positive experiences of experiential and cooperative learning

This theme captures the learners' experiences of the experiential learning approach and cooperative learning strategies they were exposed to as part of the enriched Life Skills curriculum. Three sub-themes were identified in relation to the positive experiences of the learners, more specifically in terms of a fun element; interaction, group cohesion and peer learning; and creative learning activities. Table 4.1 provides the criteria I relied on in identifying the relevant sub-themes.

Table 4.1: Inclusion and exclusion criteria for Theme 1

Theme/Sub-theme	Inclusion Criteria	Exclusion Criteria
Theme 1: Positive experiences of experiential and cooperative learning	All data related to participants' positive perceptions and experiences of the Win-LIFE intervention and the experiential teaching approach followed or cooperative strategies employed	All data indicating positive experience that cannot be attributed to the Win-LIFE intervention, or the experiential approach or cooperative learning strategies that were utilised
Sub-theme 1.1: Element of fun	All data referring to participants enjoying the learning experience and what they found to be fun	All data relating to what learners enjoyed besides the enriched Life Skills curriculum
Sub-theme 1.2: Interaction, group work and learning with peers	All data relating to positive experiences by learners about working in groups cooperatively and interactively	All data referring to work done individually and where information was passively received by the learners
Sub-theme 1.3: Alternative, creative learning activities	All data relating to what learners experienced positively about alternative activities included in the sessions	All data referring to the enjoyment of familiar paper and pencil activities

4.2.1.1 Sub-theme1.1: Element of fun

The process of experiential and cooperative learning through which the enriched curriculum was implemented was seemingly experienced as positive and productive by the participating learners, who mentioned that *learning was interesting* (PRA-poster 1, group 2, September 2015). In support of this statement learners made the following comments regarding their participation in the Win-LIFE intervention sessions during member checking: *"… was an awesome experience*" (Member checking, participant 2, July 2016) and *"I loved it*" (Member checking, participant 19, July 2016). In support of this positive experience, when creating posters to teach others about what they had learned, learners expressed their experiences as follows: *"I was like the teacher because it was fun*" (PRA-poster 1, group 6, September 2015). We[9] also observed their excitement and noted: *"Learners were eager to start and planned their posters in detail"* (Co-supervisor's field notes, 11th field visit, 21 September 2015).

The participating learners appeared to enjoy the nature of experiential and cooperative learning in particular, whereby they were actively involved in their own process of learning. This can be seen in Photograph 4.1, where the learners are working collaboratively as a group to meet the outcomes set. In

[9] When referring to "we" in this chapter, I refer to the team who facilitated the intervention sessions and conducted the data generation sessions, being myself, co-supervisor Karien Botha and co-researcher Mariaan de Vos.

the practical plate activity they enjoyed their active role, and *"… even requested to do some extra plates"* (Co-supervisor's field notes, 12th field visit, 22 September 2015). They related their positive experiences to their own experiences of success, saying, "*What was fun to us was in our group we were doing things well"* (PRA-poster 1, group 2, September 2015).

Photograph 4.1:
Learners enjoying the collaborative nature of cooperative learning

Participating learners related their positive experiences to the fact that they were learning new things. One group summarised this idea as follows: "*… what I found fun was that we can learn a lot"* (PRA-poster 1, group 3, September 2015). Many learners indicated that they realised their ability and potential to learn, and they therefore increasingly showed excitement to do activities at home, saying: *"I like when they give us some home activity"* (PRA-poster 1, group 4, September 2015).

As facilitators of the enriched curriculum we strived to ensure that learning could occur in a creative manner in order to foster knowledge acquisition. This idea is captured in my reflective journal: "*The laminated, colourful key rings made the learners excited about the sessions, and their learning" (*Reflective journal, lines 306-307). We used a variety of media and strategies to make the sessions and content more interesting and enjoyable, resulting in "*learners enjoyed … to act as teachers"* (Co-supervisor's field notes: 11th field visit, 21 September 2015). This alternative approach to teaching resulted in positive responses from the learners, such as the following: *"I like when we draw*" (PRA-poster 1, group 1, September 2015) and *"I like when we paste things"* (PRA-poster 1, group1, September 2015).

Overall the learners indicated a positive ecology surrounding the implementation of the enriched Life Skills curriculum, which included non-traditional teaching activities, the way the participants were treated, and the food provided at the end of the sessions, all of which possibly enhanced the enjoyment of the sessions. Their excitement was evident in contributions such as "*… I enjoy doing this education*" (PRA-poster 1, group 3, September 2015), as well as in their observed enjoyment of tasks such as competitions, class discussions or creative tasks as captured in Photograph 4.2. Activities included group

discussions, practically creating plates of food, cutting and pasting activities, making keyrings and participating in competitions among the groups (See Photograph 4.2). One of the participants captured their experience of the teaching process as follows: *"I also liked the way they teach us about healthy eating*" (PRA-poster 1, group 3, September 2015).

Photograph 4.2:
Competition where participants had to answer questions posed by other groups

4.2.1.2 Sub-theme 1.2: Interaction, group work and learning with peers

Throughout I could observe the positive effect of participants working in groups in terms of their own learning. Participants enjoyed group discussions and social interactions while learning, stating "… *I liked when we talked as a class*" (PRA-poster 1, group 4, September 2015). This experience was confirmed during member checking when participants emphasised the value of interaction in groups, saying, "*We discussed things with our friends because then we can help each other*" (Member checking, participant 1, July 2016) and "*What I did like ... we did not work alone"* (Member checking, participant 19, July 2016). In this regard I reflected on the learners' response to being at the centre of the teaching activities and working in groups: "*As time progressed the learners' ability to work collaboratively in their groups improved. The idea of working together as a group, rather than just listening to the educator, was a new idea"* (Reflective journal, 10 September 2015, lines 88-90).

Group work apparently contributed to creating a positive learning environment. We, for example, made use of games and competitions during some sessions, resulting in "*… learners enjoyed this game"* (Co-supervisor's field notes, 5th field visit, 28 August, 2015). The participating learners confirmed our observations during the member checking session, saying, *"I liked the competition that the teacher made"* (Member checking, participant 6, July 2016). The positive environment created through interactive and cooperative activities could be observed throughout, as is captured in the following extract: *"The working environment was positive, with learners implementing cooperative learning (without even realising it)"* (Co-supervisor's field notes, PRA-based workshop 1, 21 September 2015).

Group work furthermore contributed to learners' feelings of belonging, as they felt appreciated and valued when giving their opinions and ideas. This experience was enhanced by the possibility of learners helping one another, as captured in contributions such as, *"We were happy to help each other*" (Member checking, participant 7, July 2016). Social interaction among participants was promoted through the use of discussions and activities where participants worked together towards shared goals. When reflecting on the use and outcome of group work, I made the following observation: *"… as the sessions progressed it was evident that many learners were developing a sense of belonging with those in their groups"* (Reflective journal, 30 November 2015, lines 218-220). Participant contributions confirm my observation, for example: *"We can help each other when we are wrong"* (Member checking, participant 7, July 2016).

Group work possibly diminished some pressure from participating learners to complete the work correctly, resulting in their feeling more confident about their performance in class. They summarised this experience as follows: "*What was fun to us was that in our group we were doing our things well"* (PRA-poster 1, group 2, September 2015), upon which I reflected: "*The focus was not on them as individuals, which reduced the degree of pressure the learners felt when faced with certain tasks. Each learner was able to contribute to the functioning of the group in various ways" (*Reflective journal, 30 November 2015, lines 220-222).

Group work furthermore allowed the participants to demonstrate their ability to develop internal discipline when working with others. I noted: *"As the sessions progressed, the learners showed an increasing ability to work in a group"* (Reflective journal, 30 November 2015, lines 410-411). Even though learners thus initially seemed uncertain when working in groups and sharing responsibilities and roles, they soon became familiar with this approach. Participants' ability to take turns when sharing their knowledge, views and opinions with peers in a respectful manner can be observed in Photograph 4.3.

Photograph 4.3:
Working as a group to create a poster (PRA-based workshop, session 2)

As facilitators we aimed at encouraging active participation by all learners. My co-supervisor noted positive interaction between group members in her field notes: *"Good interaction and communication"* (Co-supervisor's field notes, 8th field visit, 7 September 2015), which increased as the intervention progressed: *"Learners were very interactive and engaged well*" (Co-supervisor's field notes: 2nd field visit, 12 August 2015). In support of my observations, one of the participants remarked, "*You were still patient with us if we did not understand; you got us to be more active in this project"* (Member checking, participant 2, July 2016). During a PRA-based activity participants reflected on the interactive manner in which the content was presented: *"Tell about the nutrition and we learn about the food that we don't like and the food that we like and tell our teacher about the healthy food and the fruits that we like"* (PRA-poster 1, group 6, September 2015).

Photograph 4.4:
Learners creating a poster as a group to show what they have learned about food pyramids

The various modes of teaching supported the active involvement of participants. Learners enjoyed the active role of demonstrating and sharing the knowledge they had gained, stating, for example, "*What was fun was when we asked our friends what they liked*" (PRA-poster 1, group 2, September 2015). This idea was also indicated in the posters that the groups created to "teach" others a given topic. It was further confirmed during the member checking session with participants saying, for example, *"It was nice working in groups and helping each other"* (Member checking, participant 10, July 2016) and "*I was happy to work with my friend and in groups because it is very important to work with groups"* (Member checking, participant 7, July 2016).

4.2.1.3 Sub-theme 1.3: Alternative, creative learning activities

The Win-LIFE intervention includes alternative teaching techniques and creative media when presenting the content in nutrition education. Photograph 4.5 illustrates one of the tasks learners were given to apply their knowledge. During this activity (Session 7) participants were requested to draw a plate of food, implementing their newly gained knowledge on the South African guidelines for healthy eating. In a similar

activity during the PRA-based workshop (Session 2) participants had to create breakfast, lunch and dinner plates with real food as captured in Photograph 4.6.

Photograph 4.5:
A plate of food drawn by the learners (Session 7 of intervention)

Photograph 4.6:
A plate of food created by learners using real food products (Session 2 of data generation)

The alternative approach to learning that we followed appeared to be new to the participating learners; yet it was well received, as participants were motivated by the different activities, while the pressure to succeed and perform was reduced. I reflected on the participants' reaction: *"The learners seemed to enjoy when alternative activities were used to simply reading and writing. We made use of group work, competitions, cutting and pasting activities, creation of creative posters and plates of food. The learners also appeared to enjoy the word search, perhaps due to the fun and informal nature of the activity"* (Reflective journal, 30 November 2015, lines 324-328). In support of this reflection my co-supervisor noted the following in her field notes: *"We ended with a competition among the groups where they had to ask another group a question … learners enjoyed this game"* (Co-supervisor's field notes: 5th field visit, 28 August 2015). The value of using alternative activities when teaching was confirmed during the member checking session when participants identified cutting and pasting activities when teaching, a word search activity and the making of plates of food as fun activities that reduced the pressure to perform well. For example, they stated, *"I like cutting and pasting because pasting makes it easier than writing things"* (Member checking, participant 12, July 2016).

Due to the nature and aims of the enriched curriculum, we strived to enhance retention and the transfer of new knowledge acquired by the learners to others. The use of alternative and creative learning activities and materials fostered the retention of information. We, for example, made use of colourful handouts that were taken home, and learners created key rings with summarised information of each topic discussed (See Photograph 4.7) to assist them with retention and to create the possibility of their showing their families what they had done during the sessions. In addition we relied on the revision of previous content at the start of each session.

Photograph 4.7:
Keyrings with information cards made by participants

4.2.2 Theme 2: Role of a supportive facilitator

Theme 2 relates to the way in which we as facilitators contributed to the participants' positive experiences of the enriched curriculum. Sub-themes capture the importance of valuing participants' contexts, prior knowledge and contributions; listening to the learners and providing guidance and support; and using rewards and incentives. The inclusion and exclusion criteria for Theme 2 are summarised in Table 4.2.

Table 4.2: Inclusion and exclusion criteria for Theme 2

Theme/Sub-theme	Inclusion Criteria	Exclusion Criteria
Theme 2: Role of a supportive facilitator	All data related to the role that facilitators played during the intervention	All data related to any other roles assumed during the intervention, other than the facilitator
Sub-theme 2.1: Valuing learners' contexts, prior knowledge and contributions	All data relating to how the learners perceived the manner in which they were treated in an individual and respectful manner	All data referring to how they were perceived and treated by their peers, or people other than the facilitators
Sub-theme 2.2: Listening to learners and providing guidance	Learners' perceptions of how they were treated as learners by the facilitators and the guidance and support given	All data referring to other learners listening to one another and guidance given by people other than the facilitators
Sub-theme 2.3: Rewards and incentives	Learners' perceptions of rewards and incentives during the intervention	All data relating to perceived rewards besides the stickers and certificates given

4.2.2.1 Sub-theme 2.1: Valuing learners' contexts, prior knowledge and contributions

As implementers of the intervention, we strived to remain sensitive to differences among the participants, and between the participants and ourselves. We aimed at remaining aware of the influence of diversity on food trends, health habits, food preferences, and existing knowledge and skills. All the learners in the various groups were treated equally. In this regard I commented: "*Each learner was supported when necessary and the teaching approach used was adapted accordingly"* (Reflective journal, 30 November 2015, lines 334-335). In support of my reflection a learner noted, during member checking, that *"… they did not keep saying we were wrong or right because they did not discriminate*" (Member checking, participant 12, July 2016).

Throughout the implementation of the intervention we treated the participating learners as individuals, each with his/her own views, values and preferences, focusing on *"… individual experiences and not on copying one another"* (Co-researcher's field notes: 8th field visit, 7 September 2015). We therefore continually strived to respect all participants and their experiences, making sure, for example, that we *"… give each participant a chance to answer questions"* (Co-researcher's field notes, 8th field visit, 7 September 2015). Through the use of a reflective journal and frequent discussions with my supervisors and co-researcher, I monitored my own attitudes and potential biases. I acknowledged that the participants came from a cultural, social and economic context that differs from mine. In support of this perception, a participant remarked, *"I enjoyed the way you treated us… We felt so special and respected"* (Member checking, participant 21, July 2016).

The participants seemed to appreciate that they were valued, and that a more positive classroom environment was created. They stated, *"I liked that they didn't shout at us. I am so impressed"* (PRA-poster 1, group 2, September 2015) following our attempt to "*make each session a positive and productive learning experience"* (Reflective journal, 30 November 2015, lines 313-314). We did not coerce participants to perform, which was noted by the learners in the following way: *"We appreciate that they didn't lose hope for us*" (PRA-poster 1, group 2, September 2015). This experience was confirmed during member checking when a participant said: *"We feel like you gave everyone a chance to say his or her answers"* (Member checking, participant 6, July 2016).

4.2.2.2 Sub-theme 2.2: Listening to learners and providing guidance

We endeavoured to support learners in understanding new knowledge. Their apparent appreciation is captured in the following excerpt: "*We love them because they make us understand"* (PRA-poster 1 group 4, September 2015). Participants confirmed their desire to learn and their appreciation of the support they received during the member checking session, stating *"I like that you give us a chance to give answers and you helped us when we don't understand. You helped us to understand better"* (Member checking,

participant 20, July 2016), and *"I liked when you gave all of us a chance to say what we have in mind"* (Member checking, participant 23, July 2016).

To accommodate the diversity of participants, language difficulties and varying learning styles *"… we used various modes with which to convey the content, some of which included visual, audio and kinetic methods. We explained any difficult vocabulary that was included in the learner workbooks, and thus allowed for language differences"* (Reflective journal, 30 November 2015, lines 335-338). One of the participants acknowledged our attempts to adapt and support them, saying *"You helped us with difficult words and work"* (Member checking, participant 21, July 2016).

Despite our intended accommodating approach, participants initially seemed unsure about giving answers or providing input, not wanting to make a mistake. In response we emphasised the idea that mistakes are part of learning, and that the sessions were not representing typical schoolwork. In this regard I reflected as follows: *"The open environment wherein mistakes made, was considered a normal part of learning, and questions were welcomed, further developing the sense of belonging" (*Reflective journal, 30 November 2015, lines 393-395). Participants displayed awareness of their ability to contribute, stating *"… we learned from our mistakes"* (Member checking, participant 21, July 2016). Furthermore, learners gained from the opportunity to request help during the sessions, minimising feelings of being incompetent or insecure, which could in turn hamper learning. They stated, "*When we don't understand, we just raise our hands and our teacher will come and tell us …*" (PRA-poster 1, group 6, September 2015). The eagerness with which learners started asking questions as the intervention progressed is captured in Photograph 4.8.

Photograph 4.8:
Learners raising their hands to ask questions during session 2

4.2.2.3 Sub-theme 2.3: Rewards and incentives

Throughout the intervention we strived to provide a learning experience that was both positive and productive by using positive reinforcement. I captured our attempts as follows: *"The learners responded well to this, and it motivated further positive behaviour such as attendance of the sessions and transfer of knowledge to their families. The learners were praised regularly for effort shown in the sessions. Every effort was acknowledged. This seemed to foster a sense of determination in the learners and created a positive social system. Constructive feedback was provided to the learners, and positive expectations were held by all involved"* (Reflective journal, 30 November 2015, lines 307-313). Learners were given guidance and support that enhanced a motivation to try, thus acting as a form of reinforcement: "*I found it more and more interesting because you helped us …"* (Member checking, participant 21, July 2016).

We reinforced the efforts of participants through the use of stickers and certificates. Participating learners appreciated their efforts being acknowledged, stating, "*We were happy because we learned and the teachers gave us certificates*" (PRA-poster 1, group 2, September 2015) and *"I was happy because they were giving us stickers"* (PRA-poster 1, group 2, September 2015). In elaborating on this experience during member checking, a participant stated, "*What I liked … you gave us certificates and stickers so that you made us interested in Nutrition Education"* (Member checking, participant 6, July 2016).

Even though the food that we provided following each session was not intended as a reward, participating learners experienced it in a positive way. They commented as follows: *"… I liked the food they give us"* (PRA-poster 1, group 2, September 2015) and: "… *we have lunch together and have fun"* (PRA-poster 1, group 3, September 2015). This perception was confirmed during member checking when a learner stated, *"Things I liked … also the food that you offered us"* (Member checking, participant 21, July 2016).

Group work reinforced learners' efforts, as captured in my reflections: *"… decreased the amount of pressure placed on the learners when completing tasks, which also assisted in the development of a feeling of competence"* (Reflective journal, 30 November 2015, lines 200-202). Working in groups provided the participants with an incentive that intrinsically motivated them to work hard, as part of the group. Furthermore, group work was different, fun and more informal in nature, all of which motivated the learners to try. One of the participants summarised this idea, stating *"I liked that we helped each other … we were very happy to have fun with our friends"* (Member checking, participant 7, July 2016). Photograph 4.9 illustrates learners' eagerness to compete and take part in the learning activities.

Photograph 4.9:
Learners actively engaging and competing with other groups

4.2.3 Theme 3: Positive outcomes of the learning process

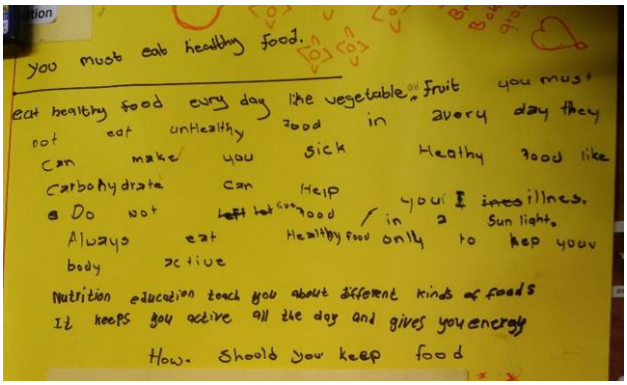
This theme describes the positive results associated with the learning process, while making use of experiential learning and cooperative strategies within the enriched Life Skills curriculum. Table 4.3 provides an overview of the inclusion and exclusion criteria for the various sub-themes of Theme 3.

Table 4.3: Inclusion and exclusion criteria for Theme 3

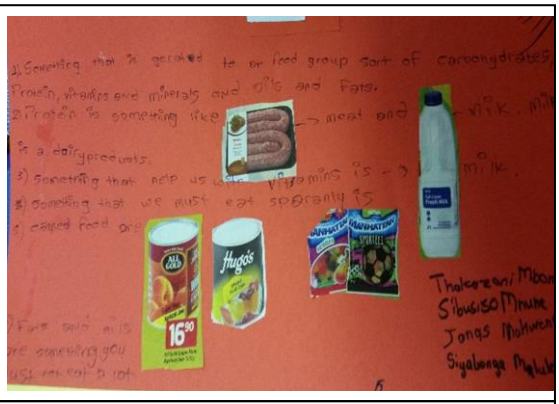
Theme/Sub-theme	Inclusion Criteria	Exclusion Criteria
Theme 3: Positive outcomes of the learning process	All data relating to the advantages of the learning process used as part of the enriched Life Skills curriculum	All data relating to positive outcomes that were not associated with the enriched Life Skills curriculum
Sub-theme 3.1: Increased knowledge and insight into nutrition education	All data referring to nutrition education knowledge that had been gained in the course of the enriched curriculum	All data relating to knowledge gained outside the nutrition education scope
Sub-theme 3.2: Increased confidence in abilities and motivation to learn	All data relating to the learners' increase of confidence regarding nutrition education content, application and learning as a whole	All data relating to increased knowledge or skills concerning nutrition education
Sub-theme 3.3: Transfer of nutrition-related knowledge and skills to others	All data referring to how participants transferred newly gained insight to family and friends	All data relating to knowledge and skills merely gained by the participants, or to self-confidence in their ability to learn

4.2.3.1 Sub-theme 3.1: Increased knowledge and insight into nutrition education

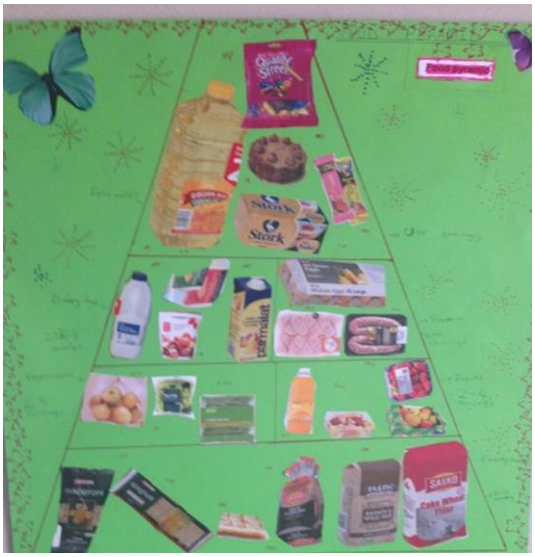
Many participating learners were able to recall the information taught during the intervention even after our completion of the implementation phase. For example, they mentioned, *"I remember that we have learned about nutrition education and that we have learned about the food pyramid"* (PRA-poster 1, group 3, September 2015). Even during member checking several months later, a learner indicated the following areas in which he gained knowledge*: "We learnt more things … like eating healthy, how many servings I must eat a day"* (Member checking, participant 21, July 2016). Further evidence of learners' increased knowledge and insight can be seen in some of the posters they created after implementation of the intervention; these are captured in Photographs 4.10 to 4.14.



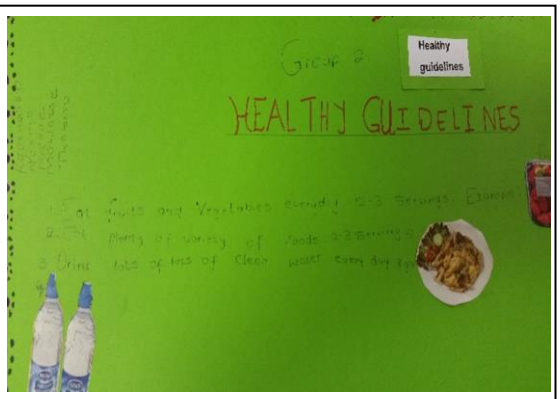
Photograph 4.10:
PRA-poster on nutrition education



Photograph 4.11:
PRA-poster on nutrients



Photograph 4.12:
PRA-poster on the food pyramid



Photograph 4.13:
PRA-poster on food safety and storage

Photograph 4.14:
PRA-poster on guidelines for healthy eating

Participants were aware of the new facts they had learned and how these were assimilated into their existing knowledge base and preferences. One of the groups summarised this idea: *"… didn't know about fats and oil*" (PRA-poster 1, group 2, September 2015). Another group reflected on their acquisition of new information by stating, "… *I learn activities that I didn't even know"* (PRA-poster 1, group 3, September 2015). In reflecting on newly acquired knowledge, the learner in group 2 indicated, *"Because I liked too eat food that has oil"* (PRA-poster 1, group 2, September 2015), thereby providing a reason for his eating habits.

The acquisition of new knowledge was confirmed by various participants during member checking discussions. They stated: "*I liked that we learned new things*" (Member checking, participant 18, July 2016), and "*I learned new things that I did not know"* (Member checking, participant 10, July 2016). When asked what they had learned that they had not known before the intervention, participants responded as follows: "*How much water you must drink each day"* (Member checking, participant 21); "*Not eating one thing again and again*" (Member checking, participant 4, July 2016), and "*Health guidelines"* (Member checking, participant 12, July 2016). Another participant identified the servings of each food group as new information she had acquired (Member checking, participant 21, July 2016). One of the participants listed the guidelines he could recall, referring to the habit of drinking eight glasses of water per day, how important it is to eat healthy food for bone strength, and that he should eat a variety of fruits every day, as different fruits contain different vitamins that the body requires (Member checking, participant 17, July 2016).

As the intervention progressed, participants increasingly demonstrated the ability to think critically, and to construct their own meaning from the information taught, rather than passively acquiring new knowledge. I reflected on this in my reflective journal in the following way: *"The learners were asked to show what they had learned regarding nutrition education. The two groups that were allocated this topic chose to expand the content of their poster and include what they had learned from the curriculum as a*

whole" (Reflective journal, 30 November 2015, lines 250-253). In this manner participants did not only convey the information on nutrition education taught as part of the intervention but also linked the content to the entire Life Skills curriculum through their own initiative, demonstrating their ability to integrate what they had learned. When compiling food plates they displayed the ability to apply practically what they had learned, thereby demonstrating the ability to apply healthy guidelines to a daily activity such as meal planning. To this end, many of the participants acknowledged the value of gaining knowledge on a healthy life style and diet. They stated, *"We liked to know how to eat healthy food"* (PRA-poster 1, group 3, September 2015); and "*The fun thing is that now I know how to eat to be healthy"* (PRA-poster 1, group 1, September 2015). In general they "… *liked to learn new things*" (PRA-poster 1, group 1, September 2015).

4.2.3.2 Sub-theme 3.2: Increased confidence in abilities, and motivation to learn

As the intervention progressed, participating learners seemingly gained confidence in their ability to learn and perform activities as expected. This is reflected in the following extract from a PRA-poster: "*… we did the things that they had given us*" (PRA-poster 1, group 2, September 2015). Following that particular session, my co-supervisor noted: "*Learners seem much more confident than a few weeks ago"* (Co-supervisor's field notes: 11th field visit, 21 September 2015). Participants specifically developed confidence in their ability to read and write, as captured in my co-supervisor's observations: *"They seemed to be more at ease with the writing activity than previously"* (Co-supervisor's field notes: 7th field visit, 4 September 2015). Participants' increased belief in their own knowledge and abilities allegedly resulted in their sharing their newly acquired knowledge with others, as reported during PRA activities: *"I liked to learn new things and teach my mother"* (PRA-poster 1, group 1, September 2015).

Over time the participants' sense of motivation thus increased in terms of their desire to learn and apply what they had learned. I reflected on this observation in the following way: "The *learners began to value learning in the course of the intervention. Learner motivation, sense of competence and feeling of belonging were enhanced throughout the intervention"* (Reflective journal, 30 November 2015, lines 446-448). To this end I reflected on the value of group work: "*The use of group work has led to the development of the learners' social skills, motivation, sense of belonging, responsibility and confidence"* (Reflective journal, 30 November 2015, lines 400-401).

4.2.3.3 Sub-theme 3.3: Transfer of nutrition-related knowledge and skills to others

Participants reportedly engaged with their parents regarding the content at the time of the intervention. Many participants indicated that they had told their families about what they had learned in the sessions, saying,*"…our friends and family liked what I taught them"* (PRA-poster 1, group 2, September 2015); *"…I also told my family about all the activities we did"* (PRA-poster 1, group 3, September 2015) and "*… another fun thing was to teach my mother new thing"* (PRA-poster 1, group 1, September 2015). During

member checking, participants elaborated on how knowledge they had gained could contribute to their daily living and health choices, mentioning "*things I like and know… more about health and our parents when they are going shop to buy healthy food"* (Member checking, participant 15, July 2016).

In reflecting on the number of participating learners who transferred information to others outside the classroom setting, as well as the way in which this was received, I noted: *"The learners appeared to be eager to teach or show others what they had learned and done in the sessions. A sense of pride was fostered, which was reinforced through the positive feedback acquired from the parents. Overall it seemed that the learners shared the information acquired with their families, who according to the learners valued the effort shown by the learners to teach them what they had learned. Most of the parents signed the books. Many of the learners indicated that their parents had been very pleased with what they had taught them. The learners emphasised the joy they received from being able to teach their families what they had learned. Positive response by families to the collaborative nature between school and families was experienced"* (Reflective journal, 30 November 2015, lines 264-273). In support of my reflections, participants indicated, *"Our parents were happy with us"* (PRA-poster 1, group 2, September 2015).

4.2.4 Theme 4: Challenges experienced by learners

Theme 4 relates to challenges identified by the participants in terms of their learning experience. Table 4.4 provides an overview of the inclusion and exclusion criteria I applied in identifying the two sub-themes.

Table 4.4: Inclusion and exclusion criteria for Theme 4

Theme/Sub-theme	Inclusion Criteria	Exclusion Criteria
Theme 4: Challenges experienced by learners	All data related to challenges that the learners experienced as part of the Win-LIFE intervention when taught Life Skills	All data referring to challenges that cannot be associated with the Win-Life intervention and Life Skills curriculum that was taught
Sub-theme 4.1: Limited participation due to unfamiliar learning approach, difficult content and retention of knowledge	All data relating to poor participation during sessions due to uncertainty experienced by the learners owing to difficulties with the content and approach to teaching	All data related to limited participation by the learners that cannot be attributed to unfamiliar learning approaches, difficulty with the content, and retention of knowledge
Sub-theme 4.2: Challenges associated with group work	All data referring to difficulties that were experienced by the learners when working in groups during the Win-LIFE sessions	All data related to difficulties experienced by the learners not related to group work

4.2.4.1 Sub-theme 4.1: Limited participation due to unfamiliar learning approach, difficult content and retention of knowledge

In the course of the intervention I observed that the participation among group members was limited at times, more specifically at the beginning of sessions. Participation of group members occasionally seemed to be low due to uncertainty. My co-supervisor noted that "*learners were a bit shy and hesitant to participate"* (Co-supervisor's field notes, 1st field visit, 5 August 2015) and I documented: *"The learners were very unsure about learning and working in a group setting, as this was different from what they had previously experienced in the classroom setting"* (Reflective journal, 30 November 2015, lines 413-414). This state of affairs, however, improved as the sessions progressed and the learners became more familiar with working in groups and being at the centre of learning. We observed that *"learners participated eagerly*" during session 5 for example (Co-supervisor's field notes, 5th visit, 28 August 2015).

In addition to uncertainty contributing to limited participation by the learners, difficult content was observed to have an occasional impact on participation during sessions. Learners commented on the workbook and our vocabulary, saying *"I find that the work that you gave us was very difficult. And the book has difficult words"* (Member checking, participant 12, July 2016) and *"It was difficult to write answers"* (PRA-poster 1, group 1, September 2015). Participants indicated feelings of frustration when they experienced work as too challenging and reflected on how this affected their ability to complete tasks. They said, *"Sometimes the sentence you give is difficult then you answer it wrong or teacher gives you wrong answers"* (PRA-poster 1, group 1, September 2015). The value of the various food groups was highlighted as being a particularly challenging component of the nutrition education curriculum: "… *what was difficult is what type of food groups helps us"* (PRA-poster 1, group 2, September 2015). In addition, during member checking, the following remark was made: "I *found it difficult when we were talking about vitamins and what they helped us with"* (Member checking, participant 19, July 2016).

In response we aimed at presenting content at an appropriate level, ensuring that we *"… simplified the most important information"* (Co-supervisor's field notes, 2nd field visit, 12 August 2015). For example, when discussing vitamins, which the learners found to be challenging, we aimed at *"… focusing on the most important function of the vitamin as well as the most important example"* (Co-supervisor's field notes, 5th field visit, 28 August 2015). When considering the following contribution our efforts were perhaps not always effective: "*… I did not like that some things were difficult"* (PRA-poster 1, group 3, September 2015).

Despite our attempts to support retention by, for example, providing handouts, doing *"… revision on Nutrition Education"* (Co-supervisor's field notes, second field visit, 12 August 2015) and asking "*… the learners what they remembered about the work we had done previously" (*Co-supervisor's field notes, 5th field visit, 28 August 2015), learners found it challenging to remember parts of the content. They

summarised their experiences as follows: *"It was difficult to remember what healthy and unhealthy food was. We didn't remember what we were reading about*" (PRA-poster 1, group 1, September 2015).

Although initial uncertainty was evident, participants were able to reflect on their learning experience, thereby demonstrating metacognitive ability. They also referred to their feelings when they did not understand the content, saying, *"I did not like that sometimes other things are very difficult"* (PRA-poster 1, group 3, September 2015). When elaborating on this theme during member checking, one of the participants said the following: "*At the beginning it was a bit scary and we were nervous because we didn't know you"* (Member checking, participant 4, July 2016). In support of this statement another participant made the following comment: "*Sometimes it is scary because you are not sure if the answer you are giving is true"* (Member checking, participant 7, July 2016). It was also indicated by many of the participants that they were aware of some of their classmates laughing at them when they had difficulties with the spoken English language, which can be linked to the uncertainty felt by the participants. One of the participants explained: "*What I did not like … others were laughing at others when they answered wrong. And I did not like it"* (Member checking, participant 19, July 2016).

4.2.4.2 Sub-theme 4.2: Challenges associated with group work

The participation of the learners in groups varied in degree. Certain learners tended to dominate within the group and take control, while *"… others would merely follow and not give their own input"* (Reflective journal, 30 November 2015, lines 421-422). In this regard learners stated that *"I did not like when … people are disrespecting and who are not giving answers"* (Member checking, participant 18, July 2016) and "*Some learners in the group did not do the talking"* (Member checking, participant 6, July 2016). Initial uncertainty to participate in groups was linked by many of the learners to possible negative reactions by peers. They said, "*We didn't like that some children laughed at others"* (Member checking, participant 15, July 2016).

Some of the learners noted that they did not enjoy the misbehaviour of others, or when conflict arose. They explained: *"I didn't like that sometimes in the group the some children fought"* (PRA-poster 1, group 1, September 2015). Even though the majority of the learners responded well to the teaching approach we followed, some had the opposite response, which was not well received by the rest of the participants. Their experiences are captured in the following excerpt: *"I didn't like the way my group behaved when we were learning"* (Member checking, participant 22, July 2016).

Increased noise levels were experienced as a challenge in using group work. Participants stated, *"I did not like people talking when Madam was talking"* (PRA-poster 1, group 2, September 2015). I also noted that "*many of the learners during reflection complained about heightened noise levels and disrespect from the learners towards the facilitators. The learners indicated feelings of annoyance due to*

the decline of environment and learning" (Reflective journal, 30 November 2015, lines 415-418). When elaborating on this challenge during member checking, a participant remarked the following: "*What I didn't like was when they made noise because then we couldn't understand"* (Member checking, participant 1, July 2016). This experience was confirmed when another learner stated that "*some boys made noise and didn't respect each other*" (Member checking, participant 12, July 2016).

4.3 FINDINGS OF THE STUDY

In this section I relate the identified themes and sub-themes to existing studies and literature. I focus on links and contradictions between existing literature and the results of this study, as well as the gaps and new knowledge I identified.

4.3.1 Experiential learning as valuable teaching method for primary school learners

In this study the learners valued the interactive and hands-on nature of the enriched curriculum they were exposed to. They enjoyed being engaged in the learning process whereby they could actively experience the content presented to them. This brought about change, both in terms of the knowledge they gained but also in terms of their applying new knowledge and sharing what they had learned with others. This finding correlates with that of the Stephanie Alexander Foundation (Alexander, 2010), indicating that experiential learning is fun and has the potential to bring about change. Following such an approach can encourage facilitators to ensure that content is relevant and can be applied to real-life contexts. Furthermore, the current study indicates that the learners responded well to building their own meaning and making use of inquiry-based learning. This finding is also supported by the findings of Corson (2003), Kellert (2002), Rahm (2002) and Mabie and Baker (1996), who all state that experiential learning can result in learners constructing their own meaning and developing an inquiring approach to learning.

The experiential learning approach fostered change in the course of the sessions. A change was observed in terms of how confidently the learners participated, and also in terms of their knowledge, skills and application of knowledge. This finding correlates with the findings of Morris and Zindenberg-Cherr (2002) as well as Lineberger and Zajicek (2000) who indicate that experiential learning has the potential to bring about change. The findings of these studies more specifically indicate that experiential learning can have a positive influence on food choices, food preferences and the consumption of fruits and vegetables. Although I did not determine whether, or to what extent the learners applied newly gained information at home, I was able to see the potential of change in their eating habits in the plates of food they created, which indicated that they could follow healthy guidelines and create a balanced diet that included foods from the various food groups. In this regard Kwan et al. (2005) state that a health promotion school intervention can lead to enhanced nutritional intake, healthy lifelong habits and may therefore have a positive effect on the family and broader community. Due to the limited time frame and nature of this study I cannot indicate the possibility of affecting the learners' lifelong healthy and eating

habits, nor the effect on their families or the community. Further research is required to determine the longitudinal and broader effects of the intervention regarding eating habits and dietary patterns.

The learners participating in this study responded well to the various alterative and creative modes of presentation used, as well as to the colourful teaching media we utilised. This finding is supported by Taylor (2009) who emphasises that it is necessary to present content in a colourful and appealing way to bring about attitudinal change. According to Taylor (2009) presenting information in such a way plays a major role in determining how effective learning will be. It is therefore possible that the way in which information was presented in the current study resulted in a favourable response from the learners to the content being taught.

Waliczek et al. (2001) state that experiential learning will result in a general positive attitude towards learning and school, possibly due to increased insight and the applicability of newly gained knowledge. I also found this to be true, as the learners gradually became more eager to learn and seemed excited about future enriched curriculum sessions. This finding correlates with the findings of Leveritt et al. (2013) who indicate that experiential learning will result in an increased motivation to learn.

In the course of the sessions, due to following an experiential learning approach, and possibly due to the alternative, creative activities we used, the learners became more eager to learn and therefore participated more actively, which indicates increasing attention levels, referred to by Kellert (2002) as a benefit of experiential learning. Learners became more aware of the value of learning about healthy eating as the sessions progressed, which led to their paying more attention and thus engaging more actively in the sessions. To this end Kellert (2002) states that experiential learning has the potential to encourage comprehension and sense-making of the learning experience, which confirms the findings I obtained.

In addition to their reaction to the approach we followed and the activities we presented, the learners positively experienced group interaction and the cooperative learning approach that apparently fostered feelings of belonging and developed their sense of confidence. This finding aligns with the work of Waliczek et al. (2001) who indicate that experiential learning will enhance interpersonal relations as well as the findings of Gillies et al. (2007) who emphasise the social benefits of cooperative learning.

4.3.2 The important role of a skilled facilitator

According to Hannah (2013) the way in which learners are treated plays a prominent role in the creation of a positive learning environment. Learners need to feel that they are cared for, and their questions and ideas are heard and valued. These criteria are consistent with the findings of the current study, as the learners appreciated that we treated them as unique individuals, valued their contributions and encouraged them to ask questions. Furthermore it is acknowledged by Jonassen (2004) that when

learners feel that the facilitator or teacher has positive expectations of them as individuals and values their academic potential, they will more easily achieve. This aligns with the findings of my study, as our belief in the learners' abilities to gain knowledge and skills in nutrition education seemingly promoted achievement and was appreciated.

Despite many positive responses to the way in which the content was taught learners in this study felt challenged by difficult content presented to them. This finding is not indicated by existing studies and can be viewed as a new finding relating to the Win-LIFE intervention specifically. Further research is therefore required to determine the level of difficulty that may have caused this response, and how future implementations of the enriched Life Skills curriculum can accommodate it.

In general the learners seemed to respond well to us as facilitators of the intervention, and were enthusiastic to learn. They enjoyed the use of positive reinforcement, which according to Donald et al. (2012) will increase desired behaviour such as learning or the desire to learn. Learners enjoyed the interactive and cooperative nature of the learning experience and trusted us to guide them. This finding is supported by Taylor (2009) who states that learning will more likely occur when the teacher is an expert, someone who can be trusted and liked, and someone with whom the recipients can identify.

4.3.3 Positive outcomes of the Win-LIFE intervention in terms of the Life Skills curriculum

Leveritt et al. (2013) indicate positive learning outcomes as a benefit of experiential and cooperative learning. I found this to be true in my study, as learners enjoyed the interactive nature of the learning experience, which resulted in feelings of confidence, an increased quality of social interaction, as well as knowledge acquisition and application. Likewise Bohn and Schmidt (2008) state that experiential learning will result in better academic performance. Similarly Gillies et al. (2007) state that cooperative learning enhances social engagement. Some of the learners in this study demonstrated the ability to integrate what they had learned during the data collection activities. The ability to recall and integrate the content of the curriculum demonstrated initiative and enhanced knowledge levels among the learners. Towards the end of the intervention, as well as during the post-intervention data generation activities, I experienced the learners as increasingly confident, more interactive and more involved in the academic tasks given to them. This resulted in better performance by them when completing activities, as they felt less pressurised to write and spell correctly, and were encouraged to focus on the content they had learned.

The participating learners in this study also demonstrated the ability to reflect on the information taught, which is consistent with Kellert's (2002) findings that reflection can be a result of experiential learning. The learners involved in the current study were able to identify information that was new to them and question how it fitted into their existing body of knowledge. Many of the learners were able to reflect on the information in relation to their own food preferences, such as enjoying eating sweets and eating

foods high in fat content. This finding aligns with the work of Hayzlett (2004), which indicates that experiential learning provides a real-life setting for developing the skills of analysis, synthesis and higher levels of thinking.

Kellert (2002) emphasises creative inquiry and empirical observation as benefits of experiential learning, which I did not find. This silence in my study may be ascribed to the fact that the participants were young learners who learned and participated in their second language, which may have had an effect on their levels of inquiry and making empirical observations about the content taught. This is, however, a mere hypothesis that requires further research before it can be confirmed. Kellert (2002) furthermore describes cognitive development as a benefit of experiential learning, which was not observed in the current study. This apparent discrepancy between the findings of this and other studies on experiential learning may perhaps be ascribed to the limited time frame of my study and its specific aim. This hypothesis requires further investigation.

Learners did, however, demonstrate the ability to reflect on how they could apply what they had learned to their real lives. They increasingly became aware of why such information is valuable and important, confirming the findings of Leveritt et al. (2013) who indicate that experiential learning will develop one's understanding of how newly gained knowledge can be applied in a real-life setting. According to SANHANES-1 (Shisana et al., 2014), South African children generally have limited knowledge of nutrition. In the current study I found that the learners understood the basic food groups but that many of them experienced difficulty in identifying healthy guidelines and were not aware of the importance of a balanced diet according to recommended portions. This finding supports SANHANES-1 (Shisana et al., 2014), which furthermore acknowledges that although South African children generally have poor nutritional knowledge they are able to identify healthy food alternatives, as has also been found in the current study. Overall the learners' nutritional knowledge and application thereof improved as they engaged in the enriched curriculum. This links to the MDG of achieving universal primary education for all, even though the learners' application of the healthy guidelines at home could not be determined, due to the limited nature and aims of the study. Further research needs to be conducted to determine the broad, long-term effects of the Win-LIFE intervention on learners and their families.

In terms of eating habits, this study indicates that the learners preferred to eat foods that are high in energy. This finding aligns with the findings of Mchiza and Maunder (2013), as well as of Faber et al. (2010), who state that in South Africa the intake of high energy foods is higher due to the lower cost of such items when compared to meat, fruits and vegetables. However, I found that the learners gradually became more aware of the importance of a balanced diet comprising foods from all the food groups. This finding supports the MDGs of achieving universal primary education and reducing childhood mortality.

Finally, the potential positive effect of information sheets and worksheets completed at home by parents (Gorley et al., 2009), specifically the effect on a healthy lifestyle, is not referred to in my study. This gap is most likely due to the limited extent of the study, and therefore further research on the potential value of the information sheets that we sent home, together with the homework activities required, needs to be conducted. In addition, collaboration with and interaction between parents and learners, and their responses to nutrition education, need to be further explored to verify that the learners did indeed transfer the information to the home setting, and how the parents perceived this.

4.3.4 Challenges experienced during implementation of the Win-LIFE intervention

Limited participation during group work (or cooperative learning) was initially observed during my study. According to Edmondson (2002) this often occurs in group settings, due to group members' fears of providing an incorrect response or answer, which could affect how others see them. This was observed throughout the intervention; however, it was particularly evident during the initial stages of my study, when learners were unfamiliar with working in groups. Their ability to interact in groups improved over time, as can be expected of learners becoming more familiar with working cooperatively, according to Christie, Tolmie, Howe, Topping, Thurtson & Jessiman (2004).

The learners in this study reflected on the challenge of noise and some learners not respecting others or the facilitators. This negative element of experiential learning is not reflected in the body of existing literature I consulted. In addition I gained new information on the learners' lack of familiarity with working in a group setting as a potential challenge, as opposed to their being taught by means of traditional teaching methods. The unfamiliarity of the learners with the interactive nature of learning and group work activities can be regarded as possible causes of their finding the noise and apparent disrespect of others difficult to deal with. Further research is required to elaborate on this finding on the use of group work, cooperative and experiential learning in the South African context.

Varied degrees of participation among members were also evident in my study, which according to Morgan (2002) is a prominent challenge when following such a learning approach. Reluctance to engage and contribute can occur, and thus motivational difficulties may arise when learners are requested to work in groups. According to Watkins (2004) "freeriding" whereby some group members do not participate but merely rely on the efforts made by other group members is possible. I found this to be the case among a few learners; yet this was limited (Beebe & Masterson, 2003; Winter, 1999). Literature also indicates that some learners may dominate group tasks, potentially creating dissatisfaction among other group members (Beebe & Masterson, 2003); yet I observed only a few incidences of this in some of the groups in my study.

4.4 CONCLUSION

In this chapter I presented the results of the study, and then situated these within the existing body of knowledge on the topic. I highlighted similarities and inconsistencies between existing literature and the results I obtained, identified gaps and indicated new knowledge that had been generated.

In the following chapter I list conclusions drawn, based on the research findings discussed in this chapter. I present my conclusions by addressing the research questions I formulated in Chapter 1, highlight the contributions of the study and reflect on its challenges and limitations. Finally I make recommendations for future training, research and practice.

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CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 4 I presented the results of the study and included examples from the raw data in support of the themes and related sub-themes I discussed. I then interpreted the results and discussed the findings in terms of the existing literature presented in Chapter 2.

In this chapter I draw final conclusions. To this end I address the research questions formulated in Chapter 1, relating the findings I obtained to the selected conceptual framework of the study. I highlight the potential contributions of the study and reflect on the challenges and potential limitations I experienced. I conclude the chapter by formulating recommendations for training, practice and future research.

5.2 OVERVIEW OF PRECEEDING CHAPTERS

In Chapter 1 I provided an overview of the study and described the rationale, together with the purpose of the topic I explored, namely how Grade 5 learners experienced an enriched Life Skills curriculum presented as part of the Win-LIFE intervention. After formulating the research questions I stated my working assumptions, based on the literature I had consulted. I then clarified the key concepts underlying my research, namely experiences, learners and the enriched Life Skills curriculum. I briefly introduced the epistemological and methodological paradigms I selected and stated the research design and methodology I employed. I concluded the chapter by briefly referring to the ethical guidelines and quality criteria to which I adhered throughout the study.

In Chapter 2 I discussed existing literature on health-related behaviour and the challenges generally experienced by South African resource-constrained communities. I referred to the effects of malnutrition on families, as well as to the factors that may influence health-related behaviour, and the effects of poverty on individuals and households. I next explored possible interventions that may address current challenges. Lastly, I explained the conceptual framework of the study, drawing from the theories of Ozer (2006) and Bronfenbrenner (1979).

In Chapter 3 I discussed Interpretivism as the selected epistemology and a qualitative approach as selected methodological paradigm. I described the case study research design I relied on, linking this choice to the purpose of the study. Next I justified the research process I followed, and the methods I utilised for data generation and documentation, namely PRA-based workshops, observations, field notes, audio-visual methods and a reflective journal. I explained the process of inductive thematic analysis and

interpretation I completed, and elaborated on the ethical guidelines I followed and the quality criteria I applied.

In Chapter 4 I presented the results of the study in terms of the four themes and related sub-themes that emerged, following the data analysis I completed. The themes I identified relate to learners' positive experiences of experiential and cooperative learning, facilitators' contribution to these positive experiences, the positive outcomes of the learning process, and challenges experienced by the learners during implementation of the enriched curriculum. I then presented the findings of the study against the background of current literature and indicated similarities, differences and silences that came to light.

5.3 CONCLUSIONS

In this section I draw conclusions based on the findings I obtained. I structure my discussion in accordance with the secondary research questions that guided the study (Sections 5.3.1 to 5.3.5). I then reflect on the primary research question formulated in Chapter 1 in order to highlight the contribution of the study.

5.3.1 Secondary Research Question 1

What does an enriched Life Skills curriculum entail within the Win-LIFE intervention?

The Win-LIFE intervention enriched the current CAPS Life Skills curriculum for Grade 5 learners through use of additional workbooks, creative and alternative activities, as well as a positive learning environment that encouraged parental involvement, group work and experiential learning. The enriched curriculum focused on the following themes: nutrition education, nutrients, the food pyramid, South African guidelines for healthy eating, and food safety and storage. The workbooks that were used with the learners (See Appendix G) were structured according to these five topics. Based on the existing learning areas of the Life Skills curriculum the Win-LIFE intervention enriched the curriculum by spending short periods of time on the enriched workbooks in class, and involving family members when completing homework sections. Additional information for parents who needed to acknowledge learners' completion of the various tasks and activities was included throughout the workbook. In presenting the Win-LIFE intervention we requested the learners to ask their parents questions regarding the content, and teach their families what they had learned. This approach differs from the traditional approach to learning typically utilised in South Africa, as parental involvement is encouraged and information is presented not only to the learners, but to their families as well.

A positive learning environment was created through the approach and teaching method we followed. Alternative and creative activities instead of traditional paper and pencil ones were used in the sessions. We also made use of flashcards and pictures to enhance learning. Learners were required to write, cut and paste, complete word searches, create plates of food, compete with other learners and

learn about one another's food preferences. These activities enriched the curriculum by creating a positive learning environment that was more informal and relaxed than when traditional teaching applies, which potentially facilitated the learning process. We consistently linked the content and activities to their daily lives through discussion, which encouraged the link between new content and existing knowledge. In addition, we relied on positive reinforcement to promote a positive learning environment. Learners were also provided with stickers and certificates for their efforts and commitment.

A positive learning environment was further promoted through the use of group work, which became the core of the teaching approach that was followed. Learners were required to work collaboratively in groups towards a shared goal, which differed from the style of instruction and learning these learners had been accustomed to. Learners engaged in a more experiential and cooperative learning mode. In addition learners' sense of "ownership" and responsibility for their own learning increased. This sense of ownership which was further developed by active involvement of the learners, personalised attention and feedback, and encouraged learners to more actively participate in the process of learning.

5.3.2 Secondary Research Question 2

Which knowledge, skills, and attitudes did the learners acquire in Life Skills after being taught during the Win-LIFE intervention?

Following implementation of the intervention, learners demonstrated knowledge on nutrition education and insight into healthy eating patterns. They also demonstrated the ability to apply South African guidelines for healthy eating to their personal food choices during the sessions. This application in the class setting indicated possible transfer of skills to their lives; however, further research is required in this area.

In terms of personal and social well-being learners gained an understanding of the importance of eating healthy foods, and were able to identify examples of both healthy and unhealthy foods. They were able to identify the various food groups, and give examples of each. They gained knowledge on the value of nutrition education and healthy eating guidelines. One of the groups demonstrated initiative by integrating the information taught throughout the sessions in a summarised version of how they perceived nutrition education during the final data collection phase. This resulted in the learners displaying an understanding of the relevance of the information taught. They also displayed the ability to assimilate the information with their existing knowledge and food preferences.

In terms of the learners' attitudes to the enriched curriculum and learning about nutrition education, they seemed to enjoy the process of learning as well as the styles and methods of teaching that we implemented. As the sessions progressed, learners became more familiar with the learning activities, and

their self-confidence, self-discipline and feeling of pride were enhanced. This positive attitude may have had an effect on their willingness and excitement to share the newly acquired information and skills with their families and friends.

With regard to the enriched curriculum, learners enjoyed the variety of teaching styles and approaches, more specifically the cooperative and experiential approach to teaching, as well as the more creative and alternative activities we included, such as drawing, writing, cutting and pasting activities, and group and class discussions. As the idea of group work became more familiar to the learners their self-confidence and feeling of belonging increased. Their ability to demonstrate self-discipline when interacting in a group improved as they became more familiar with the approach. At the end of the intervention it was noted that the learners had developed a sense of pride regarding not only their increased knowledge and skills, but also in terms of their ability to work in groups, maintaining self-discipline and transferring information to their families and friends.

5.3.3 Secondary Research Question 3

How did learners apply (if so) their newly gained knowledge and skills?

The learners showed insight into healthy eating patterns, which they implemented in their daily lives and transferred to their family and friends. Their understanding of the importance and relevance of applying their newly gained knowledge to their daily choices was evident during the data collection sessions. This indicated that the learners possibly applied healthy eating guidelines at home, such as drinking more water, and eating a more balanced diet and a variety of healthy foods.

According to the learners they told their families and friends what they had learned, and their friends apparently valued being able to learn something new. It was clear that the learners enjoyed sharing ideas and experiences with others regarding what they had learned, and demonstrating their new knowledge in class when they created posters on nutrition education, following the implementation of the intervention.

5.3.4 Secondary Research Question 4

What did learners like and dislike about being taught Life Skills as part of the Win-LIFE intervention?

Our approach to teaching and the variety of teaching activities, group work, positive reinforcement and the responsibility of the learners to transfer what they had learned to their families, were received positively. Furthermore, the fact that we valued all contributions and respected the learners' contexts and differences was appreciated. To this end learners perceived themselves to be a central part of the learning process, which in turn enhanced their self-confidence.

Learners also enjoyed the variety of teaching strategies and activities that were used. They responded positively to the way in which class and peer group discussions, group work and individual writing, drawing, cutting and pasting in their workbooks were integrated. More specifically, they enjoyed planning and creating posters, as well as acting like "teachers". Their desire to transfer knowledge was evident, indicating the effectiveness of such an intervention for enhancing learning, a positive attitude to learning, and taking responsibility for learning. I can thus conclude that an alternative, more interactive approach to teaching creates a more informal learning situation and promotes a positive attitude to learning among learners, which will ultimately foster learning.

Learners furthermore demonstrated positive responses to reinforcement, not only in class for their contributions and behaviour, but also as a result of their teaching their families at home. They enjoyed verbal praise, receiving stickers and certificates and valued the fact that we believed in them. In this respect I can conclude that the manner in which we implemented experiential learning contributed to their self-confidence, which in turn had a positive effect on the learning that took place.

Despite the learning experience primarily being experienced in a positive way, learners also had some negative experiences. Language difficulties in terms of vocabulary and the level of work included in the workbooks were specifically identified as elements of the curriculum that they disliked. Learners also reported difficulty in recalling the information, particularly regarding more complex sections of the content such as the functions of the various vitamins. As such, the level of difficulty of the content covered in the intervention was perhaps not appropriate for the population group in all sections, due to English being their second language. This could possibly have had a negative effect on the learners' acquisition of new knowledge in certain but not all areas of the work.

Learners did not like the uncertainty regarding group work they initially experienced. The approach to instruction and learning that was followed for the Win-LIFE intervention differs from the approach and style the learners were accustomed to. Being central to the learning process was perceived as new and unfamiliar; however, the learners became used to this approach as the intervention progressed, capitalising on the benefits of such an approach with regard to their learning. In terms of group work specifically, learners disliked passive group members, disruption due to elevated noise levels as well as conflict that sometimes arose among group members.

5.3.5 Secondary Research Question 5

How can the Win-LIFE intervention (Life Skills subject) be improved for potential future application with Grade 5 learners?

Based on the findings related to the learners' dislikes of the intervention, the vocabulary that was used can be revised and the amount of information that was included reduced. The difficulty level of the content

included in the workbooks needs to be reconsidered for potential future implementation of the Win-LIFE intervention.

Poor understanding of the content based on the language used can have a negative effect not only on learners' experience of a curriculum, but also on their knowledge and skill acquisition. Furthermore, as learners may be unfamiliar with group work and providing input, opinions and ideas when learning, and difficulty with language or understanding the content may hamper their confidence to interact actively and collaboratively while learning. It is important to acknowledge that balance needs to be maintained between decreasing the difficulty level of the vocabulary and the content, while still including work that will challenge learners to take up the task of learning. To this end the workbook can be revised, specifically keeping in mind that it may be used by English Second Language (ESL) learners.

5.3.6 Addressing the Primary Research Question

This study was guided by the following primary research question: ***How do Grade 5 learners experience an enriched Life Skills curriculum presented as part of the Win-LIFE intervention?*** Based on the findings of the study, I can conclude that the learners generally experienced the enriched curriculum in a positive way. They enjoyed both the content and the manner in which it was taught to them. In linking these experiences to Ozer's (2006) model of proximal and distal effects as well as to Bronfenbrenner's socio-ecological transaction model (1979), it seems clear that a health promotion intervention such as Win-LIFE will have an effect on the various systems in which learners function. The effects of the intervention could be considered as proximal and distal process effects of the enriched curriculum, that occurred in the various systems in which the learners function, as summarised in Figure 5.1.

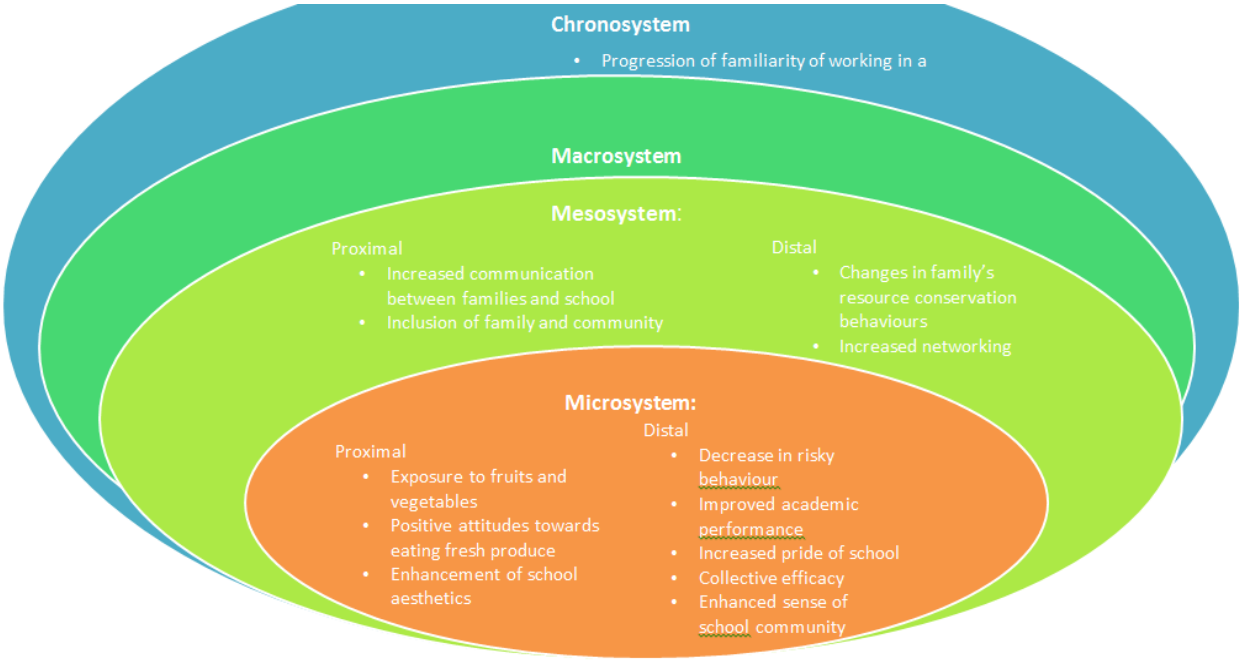

Figure 5.1: Situating the findings of this study within the conceptual framework

Learners experienced the sessions as being fun, and the process of learning about nutrition education in a positive manner. This experience by the learners can be related to both proximal and distal effects within their immediate micro-environment. The proximal effects include that they enjoyed interacting in an active manner, within groups, as well as the variety of activities used. Furthermore learners' knowledge and skills regarding nutrition education, and specifically insight into healthy eating patterns, increased in the course of the sessions. Learners also became more confident about their own ability to recall and apply the information they had gained. Their sense of self-discipline developed, resulting in their taking more responsibility for their own learning. This in turn facilitated the transfer of knowledge and skills to their daily lives, as well as to their families.

Due to their increased desire to learn, the learners transferred new knowledge to the broader systems in which they were nested according to the socio-ecological transactional model. In this regard I propose further research on the extent to which learners transferred the information and how this was perceived by their families, the effects of which could be considered with regard to increased communication between families and schools, and greater inclusion of the family in the learning process in terms of proximal effects within the mesosystem. Furthermore, possible changes in eating habits and patterns at home due to such transfer of knowledge and skills could be conceptualised in terms of the distal effects of the intervention.

Even though learners appreciated that they were being valued and that we as facilitators created a positive environment in which to learn, they were initially uncertain about the content, how to engage in group work, and how to be at the centre of the learning process. This might in part have been based on the advanced level of vocabulary and content of the workbooks. It could alternatively indicate that learners were more familiar with a traditional teaching approach. Learners' participation did, however, improve as time progressed. Despite the progress some of the learners still felt that group work and a more interactive learning approach resulted in certain group members not participating while others dominated. From observations made, this was mainly due to their expressive language abilities. The above mentioned factors can be conceptualised as proximal effects of the intervention together with the influence of context on development.

The finding that learners became more familiar with working interactively in groups is consistent with the socio-ecological element of the conceptual framework of the study, as learners do not develop or learn in isolation. In addition the changes identified among the learners over time can be understood in relation to Bronfenbrenner's acknowledgement of the chronosystem as a component of development. Based on these findings I am of the view that experiential and cooperative learning, and group work are beneficial in the South African context when teaching learners of diverse backgrounds and large groups of learners. Benefits of experiential and cooperative learning such as feeling valued, experiencing a sense

of belonging, increased confidence due to a reduction of individual academic pressure, as well as a shift in terms of attitude to learning can thus enhance learning. These factors can be considered as distal effects of the enriched curriculum in terms of the conceptual framework of the study, which is also consistent with the socio-ecological transaction model that acknowledges that change in the approach to instruction and learning will in such distal effects.

5.4 POSSIBLE CONTRIBUTIONS OF THE STUDY

This study adds to existing knowledge on general health-related behaviours in the South African context, and the challenges that are faced. However, further research is required to determine the application and sustainability of healthy eating patterns. The motivation and willingness shown by the learners to learn about nutrition education as well as the excitement to transfer such information to others will possibly contribute to the motivation to engage in health promotion interventions in the future. This intention aligns with the underlying philosophy of participatory action research, namely to set in motion reflection and some form of action, or ideas for action, among participants.

The study furthermore contributes to the body of knowledge on enriching school curricula, more specifically the current CAPS Life Skills curriculum in the areas of nutrition education. Findings highlight possible knowledge and skills that can be acquired by learners in terms of nutrition education as part of an enriched curriculum, as well as the potential of parental involvement in the Life Skills curriculum.

The study also adds to existing theory on teaching methods, in particular the use of experiential and cooperative learning within a resource-constrained South African context in primary schools. It confirms and foregrounds the potential value of such approaches in the learning process and outcomes, as well as learners' experiences of these approaches. In practice this study provides teachers with examples of how content on nutrition that can result in positive learner experiences may be taught. Although research exists regarding the benefits of experiential and cooperative learning, the majority of such existing studies have been conducted in non-South African contexts. As such, this study may give teachers in South Africa an idea of the practical application of experiential and cooperative learning in this context.

Finally, this study contributes to the findings of the broader Win-LIFE project. It adds to the findings of related studies that focus on the experiences of the learners regarding the enriched Natural Sciences curriculum, as well as the parents' experiences of the enriched curriculums. It furthermore highlights the potential value of interventions such as these, in terms of the learning it may facilitate amongst primary school learners.

5.5 CHALLENGES AND POSSIBLE LIMITATIONS OF THE STUDY

The difference in culture between the participants and myself may have been a potential limitation, as I may have drawn conclusions based on my subjective frame of reference, which is shaped by my own cultural beliefs. Furthermore, this study formed part of my training as an Educational Psychologist, and therefore I had to remain mindful of what my role as qualitative researcher entailed throughout the research process. I addressed both limitations by engaging in constant discussions with my supervisors and co-researcher. I also kept a reflective journal in order to monitor my own beliefs, thoughts and how these could potentially affect my participation with the participants.

Another potential limitation of the study relates to the possibility of the participants modifying the image they projected or fabricating responses. The participants' reports of sharing what they had learnt with their families, as well as the parents' signatures in their workbooks thus needed to be interpreted with caution, as the participants seemed eager to please the research team. In an attempt to address this potential limitation, I remained aware of this possibility as well as of my own biases and subjectivity, and how these could potentially influence the findings, reflected on them and monitored the process continuously. I also kept in mind that further research would be necessary to confirm the transfer of knowledge to the learners' families, despite the learners' reports that this had occurred.

Accounting fully for the complexity of influences on human experiences, is another possible limitation of the research process. I remained aware of this possibility, and acknowledged it throughout the study, also in related documentation and report writing. I took into account the possible influence of previous knowledge, and cultural and social forces on the participants' responses. Furthermore I realised the need for follow-up research regarding the long-term effect of the Win-LIFE intervention on the learners' and their families' eating habits, as well as the various factors that may have played a role in determining which knowledge they transferred to their daily lives and broader context.

Next, the lack of generalisability of the findings can be regarded as a limitation, as only 31 learners in Grade 5 in one primary school near the Bronkhorstspruit area participated. The aim of the study was to gain an in-depth understanding of the experiences of this specific group of learners following the implementation of a specific health promotion intervention, with generalisability not being the aim. The findings may however be transferable, based on my detailed descriptions of the process and context. It would however be necessary to explore the similarities between this context and another context in order to determine whether the findings may be transferred.

Finally, the time lapse between data collection and the member checking session can be viewed as a potential limitation. The time lapse could have had a negative effect on the group cohesion that was established during the intervention sessions, which formed a fundamental element of the application of

the enriched curriculum sessions, as well as the PRA-based workshops. Group cohesion developed a sense of confidence among the learners, getting them to offer their input and opinions, which was also necessary during the member checking session. Furthermore, the time lapse could have resulted in learners having difficulty to recall what had occurred during the intervention sessions and PRA data generation workshops. In an attempt to overcome this challenge we briefly revised the aim of our sessions and what the sessions had entailed at the start of the member checking session. We then allowed the learners to speak collectively as a group, but also asked them to write down their thoughts, feelings and opinions after presenting the identified themes and sub-themes to them. We approached each group and/or learner to discuss his/her thoughts and feedback individually, which potentially decreased the pressure on learners.

5.6 RECOMMENDATIONS

In the following section I make recommendations for training, practice and future research, based on the findings of the study.

5.6.1 Recommendations for Future Training

Based on the findings of the study I recommend continued emphasis on experiential and cooperative learning when training teachers and student teachers. Experiential, hands-on learning needs to be encouraged in the classroom to support learning by learners from various backgrounds and with different preferences and needs. Even though experiential and cooperative learning forms part of teacher training programmes, practising teachers may benefit from refresher courses that focus on strategies that can be applied in the various subject areas to assist teachers in optimally facilitating this form of learning.

Furthermore the value of school and family or community relations, and coalitions needs to be emphasised during the training of teachers. Parental support and involvement in the learning process play a vital role, and can optimise the learning process and outcomes. Ongoing interaction between schools and families is therefore imperative for learning to be effective.

The training of educational psychologists and students in other helping professions, such as social work and counselling needs to emphasise the role of learners as agents of change. Furthermore, training students in PRA methodology may add value, as this can provide a valuable platform to work with populations in resource-constrained community settings, with the possibility of facilitating positive change. Educational Psychology students should also benefit from training in experiential and cooperative learning strategies in order to support teachers and learners effectively.

5.6.2 Recommendations for Practice

I recommend that the findings of this study be practically applied in the school where the study was undertaken. I suggest that the findings should be taken a step further, by arranging workshops for

teachers of the participating school. Recommendations for teachers and schools, based on the outcomes of the enriched curriculum exploration, include stronger emphasis on a cooperative learning environment, as well as positive reinforcement in the classroom. Furthermore it is recommended that parental involvement in academic matters and processes be encouraged.

Furthermore, follow-up phases of the Win-LIFE intervention are recommended, whereby challenges of the existing intervention are addressed and the benefits tapped into. I recommend that these follow-up phases focus on applying the intervention in various communities, with different grades of learners.

5.6.3 Recommendations for Future Research

Based on the findings of this study, I recommend future research in the following areas:

- The outcome of disseminating the Win-LIFE nutrition education programme in other schools, and in different communities.
- Variables affecting school and teacher motivation and commitment to the implementation of an enriched curriculum, and how commitment may be encouraged.
- A more in-depth exploration of the skills acquired and the application of nutrition education at home, following the Win-LIFE intervention, among both learners and their family members to determine the value and sustainability of the intervention in a broader context.
- The value of information sheets and worksheets taken home, and to what extent these may support healthy lifestyles at home.
- Health-related behaviour of the learners who participated over time.
- The use of cooperative and experiential learning in the South African context.
- Effects of language on learners' experiences of the Win-LIFE intervention.
- The level of difficulty of content presented in the workbooks.

5.7 CONCLUDING REFLECTIONS

In this study I explored and discussed the experiences of Grade 5 learners of an enriched Life Skills curriculum that formed part of the Win-LIFE intervention. The enriched curriculum was based on Ozer's model of proximal and distal effects (2006) and the socio-ecological transaction model of Bronfenbrenner (1979).

Based on the study I completed, positive outcomes can be reported relating to the knowledge and skills acquired by the participants, as well as the involvement of their families. The findings of this study indicate a positive general experience of the enriched Life Skills curriculum by the Grade 5 learners. The learners responded well to the use of experiential learning and group work, although they initially seemed unfamiliar with the approach. This led to benefits both proximally and distally, as both short-term and

long-term effects could be observed in the various spheres in which the learners functioned. Learners demonstrated the ability to acquire knowledge and skills in a way they enjoyed, transferred these to their families, and their motivation to learn increased.

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APPENDICES

Appendix A
Permission to conduct research from the Gauteng Department of Basic Education

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Permission to conduct research from the school principal

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Appendix A

Permission to conduct research from the Gauteng Department of Basic Education

For administrative use:
Reference no. D2016 / 399 A
Enquiries: Diane Buntting 011 843 6503

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

Office of the Director: Educatio**wledge Management ER&KM)**
9th Floor, 111 Commissioner Street, Johannesburg, 2001

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

.....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: 2016/02/22

Office of the Director: Education Research and Knowledge Management ER&KM)
9th Floor, 111 Commissioner Street, Johannesburg, 2001

Appendix B

Permission to conduct research from the school principal

PERMISSION TO CONDUCT RESEARCH AT PRIMARY SCHOOL

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

29/08/13

Date

Appendix C

Informed consent form for parents of the child participants

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

REQUEST FOR PARTICIPATION AND INFORMED CONSENT

PARENTS and/or LEGAL GUARDIANS

Dear Sir/Madam

We are conducting a research project titled '*Schools as sites for social change*', with an emphasis on Nutrition Education and the important role of vegetable gardens. The research project is based on the development, implementation and evaluation of a school-based health promotion intervention, Win-LIFE (Wellness in Lifestyle, Intake, Fitness and the Environment). The implementation of this health promotion intervention plays a major role in educating participants about healthy eating and making good decisions with regard to food choices, through activity-based learning strategies.

By implementing vegetable gardens as part of the Win-LIFE intervention, we aim to help learners to discover and learn about healthy food and good food choices, to gain practical experience of vegetable production and to develop into healthy adults. To enhance learners' knowledge about nutrition and vegetable gardens, we will focus on the following themes:

- ☺ The importance of nutrition
- ☺ The basic functions of nutrients
- ☺ The food pyramid
- ☺ Food-based guidelines for healthy eating
- ☺ Food safety
- ☺ Planning a vegetable garden
- ☺ Preparing for a vegetable garden: Soil preparation, compost and crop rotation
- ☺ Plants: Germination, structure of plants and the plants that we eat

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www.up.ac.za

Parental involvement is vital for the success of the Win-LIFE intervention. If we want to expand nutrition knowledge and skills at school and community level, your participation as parent is crucial. As you will notice from the instructions in the Learner's Workbook, you will in many cases be requested to participate in the homework activities. In other cases you will simply be required to support your child during the specific homework activity and to sign as proof that he/she actually completed the task. Thank you very much for your involvement in this project – it is greatly appreciated.

Your child's participation in the project is voluntary and he/she may thus withdraw from the project at any time if they wish to do so. Information provided will be treated confidentially and your name, or that of your child, will not be made public to anyone or when we present the findings of the project. We will use pseudonyms to protect your and your child's identity, as well as that of the school. You will also not be asked to provide any information that could result in your identity being made public. Participants will have full access to any of the collected data during their involvement, as well as to the final results of the project. The collected data will be stored in an Open Acess repository at the University of Pretoria and Fordham University for 15 years.

The overarching benefit of this study will be to enhance the holistic well-being among participating primary school learners who face vulnerability due to poverty and related risk factors. As such, a secondary benefit of the study, based on the selected approach of Participatory Reflection and Action (PRA), will be the facilitation of changed lifestyle patterns amongst the participating learners that would positively impact on their health and well-being as adults, thereby facilitating social change in the broader community and combating the detrimental effect of poverty on lifestyle patterns. In addition resource-constrained communities might take ownership in looking after their own health. Such ownership may in turn result in sustained adjusted healthful consumer and lifestyle patterns, which could for example be demonstrated in the consumption of healthful diets that are affordable and culturally acceptable. Subsequently, improved levels of nutrition, food security and well-being may be detected. No risks are foreseen at this stage.

As such, we will at all times respect your child's dignity and promote the well-being of all participants. Participants will not be harmed in any way and may benefit from gaining

Appendix D

Informed assent form for learners

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Research assent form

Good afternoon everyone, we hope you are well!

Today we would like you to help us with some research we are going to do here at you school. You and your friends play a very important role in our research. Without you, we cannot do the research, because you have all the answers we are looking for.

☺ *What is research?*

Research helps us to learn new things. First a question is asked. Then we try to answer the question. Today we are also going to ask you some questions about the Win-LIFE intervention on healthy eating we did the past few weeks. Remember all your answers will be correct, there are no wrong answers. You are also welcome to ask us questions any time during the activities.

☺ *Why are we doing this research?*

We are doing this research to learn more about what you might remember from the Win-LIFE intervention we did.

☺ *What would happen if I join the research?*

During the activities we are going to ask you to tell us about the food pyramid, different food groups, nutrients, food safety and what you enjoyed and found difficult about the Win-LIFE intervention.

☺ *Could bad things happen if I join the research?*

We will try our best to make sure that no bad things happen to you.

☺ *Could the research help me?*

Faculty of Education
Fakulteit Opvoedkunde
Lefapha la Thuto

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www.up.ac.za

We think the research may help you to learn more about being healthy and making healthier choices.

☺ *Important things you need to remember*

You can decide if you want to take part in the activities You can say ‘yes’ or ‘no’

No one will be upset or angry if you say ‘no’ You can say ‘no’ at any time

We would still take good care of you no matter what you decide

We also brought you something to eat and to drink. Thank you for listening to me, while I talked to you about our research.

If you want to be part of the research we talked about, please write your name below. This is just to show that we talked about the research and that you want to take part in the activities.

Name of participant: ……

Grade of participant: ……

Researcher:
……

Witness:
……

Appendix E

Curriculum Assessment Policy Statements (CAPS) document

CURRICULUM AND ASSESSMENT POLICY STATEMENT

(CAPS)

LIFE SKILLS

FINAL DRAFT

Grades 4–6 Life Skills Curriculum and Assessment Policy Statement 2

SECTION 1

NATIONAL CURRICULUM AND ASSESSMENT POLICY STATEMENT FOR LIFE SKILLS 1.1 Background The National Curriculum Statement Grades R – 12 (NCS) stipulates policy on curriculum and assessment in the schooling sector.

To improve its implementation, the National Curriculum Statement was amended, with the amendments coming into effect in January 2011. A single comprehensive Curriculum and Assessment Policy document was developed for each subject to replace the old Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines in Grades R - 12.

The amended National Curriculum Statement Grades R - 12: Curriculum and Assessment Policy (January 2011) replaces the National Curriculum Statement Grades R - 9 (2002) and the National Curriculum Statement Grades 10 - 12 (2004).

1.2 Overview (a) The National Curriculum Statement Grades R – 12 (January 2011) represents a policy statement for learning and teaching in South African schools and comprises the following: (i) Curriculum and Assessment Policy documents for each approved school subject as listed in the policy document National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF); and (ii) The policy document National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF). (b) The National Curriculum Statement Grades R – 12 (January 2011) should be read in conjunction with the following documents: (i) An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment Grade R – 12, published in the Government Gazette, No. 29467 of 11 December 2006; and (ii) An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework

(NQF), regarding learners with special needs, published in the Government Gazette, No.29466 of 11 December 2006. (c) The Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R - 9 and Grades 10 - 12 are repealed and replaced by the Curriculum and Assessment Policy documents for Grades R – 12 (January 2011). (d) The sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the National Curriculum Statement Grades R – 12 and therefore, in terms of section 6A of the South African Schools Act, 1996 (Act No. 84 of 1996,) form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

Grades 4–6 Life Skills Curriculum and Assessment Policy Statement 3

1.3 General aims of the South African Curriculum (a) The National Curriculum Statement Grades R - 12 gives expression to what is regarded to be knowledge, skills and values worth learning. It will ensure that learners acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes the idea of grounding knowledge in local contexts, while being sensitive to global imperatives.

(b) The National Curriculum Statement Grades R - 12 serves the purposes of:

 equipping learners, irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with the knowledge, skills and values necessary for self-fulfilment, and meaningful participation in society as citizens of a free country; providing access to higher education; facilitating the transition of learners from education institutions to the workplace; and providing employers with a sufficient profile of a learner’s competences. (c) The National Curriculum Statement Grades R - 12 is based on the following principles:

 Social transformation; ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of our population; Active and critical learning; encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths; High knowledge and high skills; the minimum standards of knowledge and skills to be achieved at each grade are specified and sets high, achievable standards in all subjects; Progression;

content and context of each grade shows progression from simple to complex; Human rights, inclusivity, environmental and social justice; infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades 10 – 12 (General) is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors; Valuing indigenous knowledge systems; acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and Credibility, quality and efficiency; providing an education that is comparable in quality, breadth and depth to those of other countries. (d) The National Curriculum Statement Grades R - 12 aims to produce learners that are able to: identify and solve problems and make decisions using critical and creative thinking; work effectively as individuals and with others as members of a team; organise and manage themselves and their activities responsibly and effectively; collect, analyse, organise and critically evaluate information; communicate effectively using visual, symbolic and/or language skills in various modes; use science and technology effectively and critically showing responsibility towards the environment and the health of others; and demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

Grades 4–6 Life Skills Curriculum and Assessment Policy Statement 4

(e) Inclusivity should become a central part of the organisation, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity. 1.4 Time Allocation 1.4.1 Foundation Phase (a) The instructional time for subjects in the Foundation Phase is as indicated in the table below:

(b) Instructional time for Grades R, 1 and 2 is 23 hours. For Grade 3, First Additional Language is allocated 5 hours and Beginning Knowledge is allocated 2 hours as indicated by the hours in brackets in the table above. 1.4.2 Intermediate Phase (a) The table below shows the subjects and instructional times in the Intermediate Phase.

Life Skills

2.1 What is Life Skills

Life Skills deals with the holistic development of the learner throughout his childhood. It equips learners with knowledge, skills and values that assist them to achieve their full physical, intellectual, personal, emotional and social potential. The subject encourages learners to acquire and practice life skills that will assist them to become independent and effective in responding to life's challenges and to play an active and responsible role in the society. Learners develop the skills to relate positively and contribute to family, community and society. They learn values such as respect for the rights of others and tolerance for cultural and religious diversity in order to build a democratic society.

Life Skills focuses on three components, that is, Religion Education, Physical Education and Creative Arts.

Religion Education pursues the moral and ethical development of the learners, whilst they learn in a factual way about the various religions and beliefs which exist in South Africa. It affirms learners' own identity and leads them to an informed understanding of the religious identities of others. The teaching of Religion Education must be sensitive to religious interests by ensuring that individuals and groups are protected from ignorance, stereotypes, caricatures, and denigration.

Physical Education (PE) focuses on perceptual motor development, games and sport, physical growth and development and play which contribute to development of an active and healthy lifestyle. Physical Education aims to develop learners' physical wellbeing and knowledge of movement and safety. Participation in PE will nurture positive attitudes and values that will assist learners to be physically fit, mentally alert, emotionally balanced, socially well adjusted, morally true and spiritually uplifted.

Creative Arts provides exposure to and study of a range of art forms, that is, dance, drama, music, and visual arts. The main purpose of Creative Arts is to develop learners as creative, imaginative individuals, with an appreciation of the arts. It also provides basic knowledge and skills to be able to participate in arts activities. A safe and supportive environment is created for learners to explore, experience and express thoughts, ideas and concepts within an atmosphere of openness and acceptance. Creative Arts assists learners to give expression to their feelings and understandings.

The content addressed in Grades 4, 5 and 6 Life Skills relates to that in Life Skills in the Foundation Phase, Life Orientation and Arts and Culture in the Senior Phase and Life

Orientation and Arts subjects in Grades 10, 11 and 12. The Grades 4, 5 and 6 Life Skills curriculum focus on similar areas of skills, knowledge and values and prepares learners to continue with these subjects in Grades 7 to 12. The content taught in lower grades serves as the foundation for the content to be taught in higher grades.

Grades 4–6 Life Skills Curriculum and Assessment Policy Statement 7

2.2. Specific aims

Life Skills aims to:

(i) develop life skills through the Creative Arts, Physical Education and Religion Education;

(ii) develop creative, expressive and innovative individuals;

(iii) develop skills such as self-awareness, problem-solving, interpersonal relations, leadership, decision making, and effective communication;

(iv) provide learners with exposure to, experiences and basic skills in Dance, Drama, Music and Visual Arts including arts literacy and appreciation;

(v) allow learners to enjoy the health benefits of exercise and develop social skills through participation in Physical Education; and

(vi) develop a positive attitude and understanding of different religions.

SECTION 4

Assessment in Life Skills

4.1 Guidelines for good assessment practices in Life Skills

Assessment in Life Skills is an integral part of daily teaching and learning. It is a continuous planned process of identifying, gathering and interpreting information about the learners' performance. Assessment activities are planned in such a manner that they complement learning activities.

Assessment involves four steps, generating and collecting evidence of achievement, evaluating this evidence against the intended achievement levels, recording the findings

of this evaluation and using this information to understand and thereby assist the learner's development and improve the process of learning and teaching. Learner progress in Life Skills is monitored throughout the school year and involves daily and formal assessments.

4.1.1. Daily assessment

Daily assessment in Life Skills provides learners with a variety of opportunities to develop and master the knowledge, skills and values related to the subject. It is done during and after the teaching and learning process. The teacher may choose any of the following as a daily assessment task: a short class test, a discussion, a practical demonstration, a mind map, debate, role-play, an interview, design and make, oral and written presentation.

The teacher does not have to mark each of these performances, but can guide learners to assess their own performance or that of peers with relevant assessment tools such as a memorandum for tests, or a checklist for an observation exercise. The use of observation checklist in daily assessment tasks helps learners to determine their progress towards the knowledge, skills and values that will be assessed in the Formal Assessment tasks.

Appendix F

Teacher manual

(Included on compact disc, attached to the inside of the back cover)

Appendix G

Learner workbook

(Included on compact disc, as previous page)

Appendix H

Excerpts from field notes and reflective journal of researcher

Final themes and related subthemes colour coded
1. Positive experience of experiential and cooperative learning
1.1 Element of fun
1.2 Interaction, group work and learning with peers
1.3 Alternative, creative learning activities
2. Role of a supportive facilitator
2.1 Valuing learners' contexts, prior knowledge and contributions
2.2 Listening to learners and providing guidance
2.3 Rewards and incentives
3. Positive outcomes of the learning process
3.1 Increased of knowledge and insight into nutrition education
3.2 Increased self-confidence, self-discipline and pride
3.3 Transferral of nutrition-related knowledge and skills to others
4. Challenges experienced by learners
4.1 Limited participation due to unfamiliar learning approach, difficult content and retention of knowledge
4.2 Challenges associated with group work

Co-supervisor's field notes:

Date	28 August 2015 (Session 5: Lesson 5a & b)
Facilitator	Kaitlyn
Observer	Karien & Mariaan
Length of session	14:10-15:00
Participants	14 boys and 16 girls (Total: 30 grade 5 learners)new idea
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we emphasised parent involvement and the importance of their homework activities.
- Kaitlyn asked the learners what they remember about the work we did previously. Learners participated eagerly.
- We did revision Nutrition Education, Nutrients, examples of food that give energy, helps with growth and keep us healthy.
- Hereafter Kaitlyn started with Lesson 5a & B (Vitamins).
- In her explanation and discussion with the learners Kaitlyn simplified everything and we decided to focus on the most important function of the vitamin, as well as the most important example. More information is included in the workbook. Colored papers with the most important information were given to the learners and we continued with the activity on p.2

- We reminded learners throughout that they only need to remember the most important function and example, also during the activities emphasized that we don't look at spelling.
- We ended with a competition among the groups where they had to ask another group a question about the vitamins we focused on during the session. Learners enjoyed this game!

Date	21 September 2015 (Session 1, PRA-based workshop)
Facilitator	Kaitlyn Bentley
Observers	Ronél, Dinah and Karien
Length of session	14:10-15:30
Participants	13 boys and 15 girls (Total: 28 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- Kaitlyn introduced Ronél to the learners and indicated that we are going to focus on what they have learned the past few weeks. She also stated clearly that we don't focus on spelling etc. The most important aspect is enjoyment and to see what they have learned
- During the first activity Kaitlyn gave the six groups, six different topics and requested the groups to make posters about the topic
- Topics included: Nutrition Education (x2 groups), Nutrients, Food safety and storage, South African Guidelines for Healthy Eating and Food Pyramid
- Kaitlyn told the learners that they are the teachers and will have to tell or learn the rest of the learners about their topic
- Learners were given cardboard and stationery and were requested to make a poster about their topic
- Learners were eager to start and planned their posters in detail
- Kaitlyn furthermore told the learners that their posters will be displayed in the Life Orientation classroom
- Learners enjoyed the feedback and to act as 'teachers'. Learners seem much more confident than a few weeks back
- The working environment was positive, with learners implementing cooperative learning (without even realising it!)
- From the posters and feedback it was evident that the learner's knowledge, skills and insight about healthy eating habits and nutrition developed (specifically in terms of the content we did with them as part of an enriched grade 5 curriculum)
- I am amazed at their knowledge gained. Kaitlyn did such an amazing job and these learners enjoyed every second of the sessions she presented

Date	22 September 2015 (Session 2, PRA-based workshop)
Facilitator	Kaitlyn Bentley
Observers	Ronél, Karien and Mariaan
Length of session	14:10-15:30
Participants	14 boys and 16 girls (Total: 30 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- Kaitlyn greeted all the learners and indicated that we are going to do a reflection activity where they need to think back about what we did during the sessions
- Learners were requested to complete another poster (Activity 1) and specifically need to indicate what they tell their family about for example Nutrients, Nutrition Education, Food Pyramid, Healthy Guidelines and Food Safety and Storage
- Learners were requested to complete all four sections individually
- Kaitlyn and Mariaan moved around between the six groups and assisted the learners by explaining the activity again to them
- Hereafter learners were given another poster to complete and were requested to indicate what they liked, disliked, what was difficult and what was fun
- Hereafter we did the plate activity with the learners
- Learners were requested to create their own plate of food for breakfast, lunch and dinner from the bags with different food examples
- Learners were extremely excited about this activity and enjoyed it very much. They even requested to do some extra plates!

 Learners were reminded about the next lesson with Mariaan

Co-researcher's field notes:

Description	Notes
Dates	2015/09/11
Project	Win-LIFE
Where?	Bronkhortspruit.
Physical setting	Vuzalela Primary School
Length of session	Session 4- start 14;30
Activities	
Participants	Kaitlyn Bentley Karien Botha Mariaan de Vos Male: 12 Female: 15
Informal interactive conversations with participants	Teachers (today) Parents (homework) Learners
Revision	Nutritional Information- group revision exercise (learners are very unsettled, talking, not focussed) **Food groups revision through questions** What is nutrition education? Teach us about healthy food Teach us to eat healthy food Tells us about different food groups: Carbohydrates Proteins Oil and fats Vitamins and minerals

	What else? Food quality and safety, how to cook food. Nutritional values Best food choices Serving size
Observations	Participants have retained new information Active participation Participants struggle to provide own answer if they have information in front
Homework	Homework was not completed by all the participants. Twelve participants competed their homework
P.49	Spelling and handwriting does not matter. Complete activity. Writing activities remain a challenge. Participants responded positively to the stickers as motivation.

Reflective journal

Initial session-5 August 2015

I was slightly nervous going the first day to the Nutrition Education sessions, as I was unsure what was going to unfold, and we had no idea how many learners would attend, and if they would be willing to learn, as the sessions were extra lessons placed after school hours.

We were also concerned that we may need to simplify the content for the learners, as we began to realise that the content was perhaps to advance in terms of vocabulary etc. We did simplify what was presented, however, we came to realise that the learners could manage more than what we expected.

31 learners attended. We were not anticipating such a good turn up rate. We questioned whether the food was a determining factor. We also realised in the first session that we had been allocated a group of learners who have barriers to reading. This created a sense of frustration as we realised that the school did not understand the reason for the intervention and the purpose of the entire process. We questioned the need to ask for more learners. As the session progressed we were surprised with these learners ability to read. A complex definition such as that of nutrients was read spontaneously in unison by the entire group with ease, which included large words such as components. Their reading comprehension ability may be a weaker factor; however, we were pleasantly surprised by their ability to read fluently in their second language, regardless of the school's label of being reading barriers learners.

Quiet, particularly the two groups of boys at the back. Unwilling to write, and appear nervous to perform. We continually reinforced that spelling and handwriting was not important as this is not "school work".

2nd session – 12 August 2015

Only one or two participants did not attend the session. This was a positive factor, as we anticipated that we might have a much lower attendance rate. Again we questioned whether they were here for the food, or if they were indeed eager to learn.

We were once again pleasantly surprised by their ability to read in their second language. They were all eager to learn, although they became more resistant with writing activities. They also seemed to be unfamiliar with the idea of working cooperatively together in groups.

28 August 2015

The participants once again stressed the importance of a healthy balanced diet during revision. They were able to identify some foods that help give you energy and those that help you to grow.

The concept of the various vitamins and the functions of each we decided would be too advanced for the participants and therefore we focused primarily on the main vitamins which included: A, B, C, D, E. Even once we cut down the long list of vitamins and their functions it was still complex for the learners, and they appeared to be slightly more resistant with these activities. The fill in the blanks activity appeared to be too advanced for the participants so we therefore worked as a class through the different questions.

The participants are beginning to work in groups with greater ease. They seemed to enjoy the activity where they had to search as a group for the vitamin with a certain function. Competition in a collaborative group appeared to work well. They were eager to read the list of vitamins and their functions in unison.

7 September 2015

The participants were able to effectively revise the healthy food guidelines. Some of the learners were able to name the guidelines word for word. The ability to learn and retain information was therefore identified, which we believe with the necessary support and input could allow them to reach their true potential, which is not necessarily being actualised currently.

The participants communicated and interacted very well. They seem to be enjoying the cooperative learning more, as they begin to become more familiar with the process. Many of the participants were also very eager to draw, and many drew very careful and detailed pictures for food storage.

They thoroughly enjoyed the word search, and started to complete parts of the word search that would set for homework. This could possibly be because they viewed the activity as a game, they are familiar with the activity or it does not rely on expressive writing skills. We were pleasantly surprised at the participants' reading abilities once again.

The learners were aware of what an expiry date is, where you find and why it is important. They were eager to share this information, indicating that they have possibly learned this information elsewhere.

11 September 2015

Not all the participants completed their homework; however, they seemed to be remembering the information from the previous session.

Learners were more resistant with the writing activity; however, there is still a significant improvement since the beginning in terms of writing confidence. We had to go through each question to fill in the blanks one by one as a class. The learners wrote with greater ease when they were reassured that spelling and handwriting does not count.

The participants thoroughly enjoyed being able to ask other people their favourite foods.

Overall (10 September 2015)

The learners were extremely excited about the stickers and the certificates which were given out for getting their families to sign their books, and for attending the Nutrition Education sessions.

The learners thoroughly enjoyed working with the coloured Koki pens. The colourful pictures and posters also seemed to help the learners, and attracted their attention. Based on our previous visits to the school, and the classrooms, we could tell that the use of such visual material is a novelty for the learners.

From the onset, the learners were knowledgeable about the food groups and the food pyramid.

The learners seemed to find the vitamins more complicated, and we had to simplify the work by only focusing on the main vitamins and giving only one or two examples, and the main function of each.

As time progressed the learners' ability to work collaboratively in their groups improved. The idea of working together as a group, rather than just listening to the educator, was a new idea to the group.

The two groups at the back of the room (two boys groups) were very quiet and tended to hide their work when you came to their group. They were not eager to volunteer answers or opinions, and they did not seem to enjoy the writing activities. This improved with time, and eventually they were participating in the discussions, and would ask for help when needed. It helped to stand by those two groups, and provide assistance even when they did not ask. Encouraging the learners that they need to write without being concerned about writing style and spelling seemed to help the learners to write with greater ease. We constantly reminded them that this is not "school work"

The books, and handouts, as well as the posters displayed created a greater sense of confidence amongst the learners with regards to trying to answer, and therefore putting up their hands.

Last session-11 September 2015

Revision was conducted during this session. The learners appear to be absorbing the content. At times the learners were able to give the exact definitions, which was a wonderful surprise for all of us.

At times they confused the functions of the foods; however this is a complicated area. They appeared to know the food guidelines very well.

Overall the group writing has improved significantly. This was a wonderful experience watching the learner's progress from being shy and unwilling to wrote, to being eager to write when given such an activity.

We told the learners that we will be coming three times the following week, and they all became very excited. This was both a positive and negative experience, as it is

wonderful that they are so eager to attend the sessions and learn, however it is sad that they obviously do not receive this level of support in their typical classrooms.

PRA focus group 1-21 September 2015

I was very happy with the amount of data we were able to gather. The learners appeared to thoroughly enjoy the reflection process, and in particular enjoyed the idea of acting as teachers, and creating a poster for learners. I feel that this fostered a sense of confidence and an ability to impart knowledge. The creative aspect of the activity, together with their enjoyment of cutting and sticking activities, created a positive environment in which the task could be completed.

Majority of the learners indicated that they taught people in their families about what they had been learning at the nutrition Education sessions. This was a positive finding, however it needs to be acknowledged that they perhaps felt that they needed to say that they had spoken to their families, and were merely repeating the content of what they had learned.

The posters created during the first PRA-based workshop on the topic “nutrition education” by two of the groups of learners demonstrated their overall knowledge acquired from the curriculum as a whole. The content conveyed indicated the learners’ abilities to show initiative and construct their own knowledge based on all the content taught.

PRA focus group 2-22 September 2015

Once again we were able to gather a great deal of data. The learners were much more eager to write than what we envisioned. Even the two groups of boys at the back, provided a great deal of information. The groups were all willing and eager to discuss their reflections, and read theirs to the rest of the class. This seemed to foster a sense of pride and confidence.

The plate activity, whereby the learners were asked to make use of various foods they had been given to create a healthy plate of food, for someone their age, according to a given meal time, was conducted. The learners seemed to thoroughly enjoy this activity and were eager to begin. They were very excited to show us what they had created, and were happy to create more plates once they had completed

their first plate, some of the groups continued and did each meal time out of their own initiative, each time eager to show the facilitators what they had done. Overall the choice of food was healthy, and included most of the food groups, however the quantity of food placed on the plates was high, however it needs to be acknowledged that they were working in groups of five or six, and therefore each learner would have different ideas, particularly with a bag full of so many possible items, which would have influenced the quantity of food placed on the plate.

Most groups also indicated the need to include water, and most groups were able to state that they had placed food on the plate according to food groups.

Final reflection (30 November 2015)

1. Progression during the course of the intervention sessions

A significant change was observed from the initial sessions to the last, in terms of the learners' attitudes and behaviour. The learners not only demonstrated acquired knowledge within the various content areas, but they were able to apply the guidelines and knowledge they had learned when creating their own plates of food. The learners showed the ability to not only recall the information taught, but rather they began to show a true understanding, application, reflection and transfer of the content taught. The learners showed an ability to provide their own meaning and understanding of the content.

Many of the learners were very shy and appeared insecure at the beginning of the implementation of the Win-LIFE sessions. They appeared nervous to participate in class discussions and group activities. They were very unsure about providing answers, and preferred to keep quiet at the back of the class. When asked to write, many of the learners simply did nothing if they were not urged to do so. It was evident that when the vocabulary and content taught was more difficult and complex or when the learners felt pressure regarding their language abilities with regards to reading and writing, they became discouraged. It was only when they became more familiar with the process, and began to understand that spelling and handwriting was not important that they began to feel more comfortable and interact more freely. The learners therefore began to show a level of confidence and competence that was not necessarily evident at the beginning of the intervention sessions.

The learners began to learn how to work with others in a collaborative manner and therefore work towards shared goals. By the end of the intervention the learners seemed more at ease, and it appeared that they had developed a greater sense of belonging. Furthermore it appeared that the learners felt less tension when answering questions and performing tasks in a group, rather than individually.

The learners were challenged to engage in reflective activities, such as the posters of what they have learned and the creation of plates of food to demonstrate their ability to apply the content learned. We as facilitators made use of probing and reflective questions in order to mediate. We encouraged the learners to apply the content learned to practical scenarios, as well as to teach their families about how to apply and use what they have learned in the sessions. The positive response to the attempts of mediation could be seen with regards to the plates of food that the learners created for specific meal times, the parents' responses to the learners teaching them what they had learned in the sessions, as well as responses given by the learners during the data collection sessions.

As the session progressed the learners' abilities to reflect on their process of learning developed. This was evident in the data collection sessions, the way they taught their families and when we recapped the information taught in the previous session each week. At first, the learners were unfamiliar with the process of reflecting metacognitively in terms of how they learn, what they found easy and difficult, and what they liked and did not like. This improved as time progressed.

The learners' sense of competency developed over the course of the sessions. This was shown through their pride when teaching their families about what they had learned, as this facilitated a sense of responsibility which in turn reinforced such behaviour through the praise or responses they acquired from their families and us as facilitators. Group work also decreased the amount of pressure placed on the learners when completing tasks which also assisted the development of a feeling of competence. The focus was also shifted from spelling, writing and marks which also decreased the pressure felt by the learners which developed their sense of competence. Overall when the learners' sense of competency regarding their own abilities and knowledge increased, the learners became happier, more motivated and developed a learning culture amongst the learners.

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2. Learners' experiences of experiential learning

The learners began to be more actively engaged in the learning process. It appeared that they had been exposed to a more traditional approach to teaching whereby the teacher merely instructs the learners, and the learners are passive in nature. Initially the learners had difficulty being active in discussions and group work, however, the ability to, and interest in, working cooperatively in groups increased each week. The learners began to play an active role in class discussions, as their sense of confidence and security increased. They became more willing and open to taking part in class discussions. They made more statements in the sessions and asked more questions, as time progressed.

The learners began to work more collaboratively as a group. As the sessions progressed it was evident that many learners were developing a sense of belonging with those in their groups. The focus was not on them as individuals, which reduced the amount of pressure the learners felt when faced with certain tasks. The learners each were able to contribute to the functioning of the groups in various ways. For a number of the group activities the learners were asked to write their own perceptions or ideas in a separate colour, which allowed them to express their own thoughts, while still being provided the sense of security of working in a group. The learners ultimately appeared proud of their group work and the various products they created.

The PRA-based workshops as well as certain activities during the course of the implementation of the curriculum allowed the learners to begin to demonstrate an ability to reflect on their own learning. They were able to identify what they liked and did not like about the curriculum and the process of learning. They were able to recognise what parts of the process or the content they found difficult, and what they enjoyed. They could identify what they found easy and difficult and what assisted their learning. They were therefore able to reflect on the process, the content and their learning, both individually and in a group. This demonstrated an ability to think in a metacognitive manner, which had developed significantly over the course of the intervention sessions.

The learners also began to demonstrate an ability to work collaboratively when reflecting on their knowledge, which allowed them to construct knowledge through social interaction. As the sessions progressed the learners became more familiar

with the process of gathering ideas as a group and working towards a common goal. Social interaction was fostered, thereby enhancing social relations and social skills.

A significant factor I observed was the learners' perceived value for learning. Many of the learners verbally acknowledged their enjoyment of the learning process, as well as finding interest in the content taught. They indicated a desire to learn more about this subject area in the future. They appeared to develop a sense of responsibility for their personal learning. The learners showed an inquiring attitude, whereby they were eager to learn more, and gain more knowledge. We encouraged the learners to venture and learn, and thus become engaged with the content.

The learners demonstrated an ability to construct their own meaning from the content taught, through the nutrition education posters they created. The learners were asked to show what they had learned regarding nutrition education. The two groups that were allocated this topic chose to expand the content of their poster and include what they had learned from the curriculum as a whole. The learners placed a great deal of emphasis on differentiating between healthy and unhealthy food. The learners acknowledged that it is important to eat healthy food every day, and keep active in order to enhance one's immunity levels. Furthermore the importance of eating foods from all food groups daily was emphasised. They acknowledged that food groups guide what we should eat, and that we should eat a balanced diet, and the learners demonstrated their knowledge by identifying foods that fall within each food group. The learners also highlighted the importance of storing and preparing food correctly. The plates of food for the various meals that the learners created also demonstrated the learners' construction of their own meaning based on the content.

3. Collaboration with parents

The learners appeared to be eager to teach or show others what they had learned and done in the sessions. A sense of pride was fostered, which was reinforced through the positive feedback acquired from the parents. Overall it seemed that the learners shared the information acquired with their families, who according to the learners valued the effort shown by the learners to teach them what they had learned. Most of the parents signed the books. Many of the learners indicated that their parents had been very pleased with what they had taught them. The learners emphasised the joy they received from being able to teach their families what they

had learned. Possible positive response by families to the collaborative nature between school and families of the curriculum was experienced.

Based on the learners' responses, their posters created regarding what they taught their families, and the parents signing of the workbooks it can be inferred that transcendence of content to the broader environment in which the learners existed. The learners demonstrated the understanding that the knowledge and skills acquired could translate into real-life choices outside of the classroom. This was seen in the discussions held in class, content remembered in revision exercises at the beginning of the sessions and the creation of plates of food for specific meals. The learners showed transcendence of knowledge with regards to healthy guidelines, the importance of a balanced diet, eating from all the food groups, healthy versus unhealthy foods and the importance of food preparation and storage.

4. Learning environment

Overall I feel that a positive and productive learning experience was created. The learners seemed to value that time was spent ensuring that their process of learning was supported. We encouraged that the learners did not focus on spelling or hand writing throughout the session, which shifted the attitude amongst the learners, and decreased the tension felt in the class. They became more willing to participate in activities, the more this was emphasised over time, as the attitude that making mistakes is okay was fostered. Questions posed by the learners were welcomed. The use of group work further fostered a sense of support towards their learning. We ensured that we remained sensitive to the quantity and difficulty level of the work as we progressed through the sessions, simplifying the content where necessary and explaining vocabulary when required. We also made use of visual materials to assist learning, colourful pictures and flashcards. We also ensured that we recapped the information taught from the previous session at the beginning of each new session. The learners created plates of food by drawing on a large plate template. This was then laminated for them to take home, to assist them to remember to eat a healthy and balanced diet. We created a keyring with each learner comprising laminated sheets of the core information learned during the course of the sessions, together with the laminated plate the learners had created. This created a sense of pride, while assisting the learners to remember the content taught and enhance the

possibility of transference of knowledge to family and friends. The laminated, colourful keyrings made the learners excited about the sessions, and their learning.

The learning environment formed was one that made use of positive reinforcement for desired behaviour. The learners responded well to this, and it motivated further positive behaviours such as attendance to the sessions and transference of knowledge to their families. The learners were praised regularly for effort shown in the sessions. Every effort was acknowledged. This seemed to foster a sense of determination in the learners and created a positive social system. Constructive feedback was provided to the learners, and positive expectations were held by all involved. We as facilitators strived to make each session a positive and productive learning experience.

All of this support led to an increase in learner motivation, confidence, commitment understanding, encouraged an active role and assisted the development of a learning culture.

One of the aims of the facilitation of the sessions was to ensure that the process of learning was interesting and enjoyable for the learners, thereby motivating them to participate and learn. We made use of games and competitions that encouraged the learners to move about and interact with one another. They were asked to interact with other groups to ask questions in order to complete the task. They seemed to enjoy the competitive nature of the task, as well as the social interaction. We also used various media in order to make the sessions and content more interesting and enjoyable. The learners seemed to enjoy when alternative activities were used to simply reading and writing. We made use of group work, competitions, cutting and pasting activities, creation of creative posters and plates of food. The learners also appeared to enjoy the word search, perhaps due to the fun and informal nature of the activity. The learners also enjoyed reading in unison, which could possibly be attributed to the fact that this format of teaching or interaction is culturally familiar to the learners, it further fosters a sense of belonging and enhances confidence and pride.

We as implementers of the enriched curriculum aimed to ensure that we remained sensitive to differences amongst the learners. All learners in the various groups were treated equally. Each learner was supported when necessary and the teaching

approach used was adapted accordingly. We used various modes with which to convey the content, some of which included visual, audio and kinetic methods. We explained any difficult vocabulary that was included in the learner workbooks, and thus allowed for language differences.

We strived to ensure that the learners felt valued and that we as facilitators believed in their ability to learn. Each learner, their context, culture, any learning difficulties, learning styles and prior knowledge was acknowledged throughout the learning process. The rural context was taken into account when considering food exposure and availability when teaching the content. We specifically asked the learners about their food choices. The enriched curriculum was developed in such a way, so to ensure that the learners' context would be accounted for. It was a collaborative approach between us as facilitators and the learners, whereby we scaffolded the content to be taught, based on what they as learners presented during the sessions. Through the use of multiple facilitators and group work we strived to provide individual support to each learner as needed.

We endeavoured to take into account the learners' prior knowledge regarding the subject area. We asked questions as the beginning of each session, which allowed us as facilitators to gage the learners' existing knowledge base of the content to be covered in that session. We used this as a base line from which to teach the content for that specific session. We also strived to ensure that we revised the previous sessions content at the beginning of each new session. This developed a sense of competence and belonging. It also allowed the learners to tell their own stories and give practical examples of application of the content.

The learners were encouraged to engage in conversations regarding how prior and newly acquired knowledge could be intertwined. The learners were encouraged to create new findings based on this. The specific learning environment fostered interest in the learning process, and provided the learners with a sense of responsibility. We aimed to assist and guide the learners in the learning process, which ultimately led to the learners taking personal responsibility for their learning, and ultimately learning how they best learn. We did not link the content to the other subject areas perhaps as much as we should or could have.

I feel that we took a genuine interest in the learners and their learning, which facilitated the entire learning process, and most of all their motivation and commitment to learning. We praised their efforts and had high expectations for each learner. I feel that we considered each individual learner as unique, and were sensitive to differences amongst the learners. We treated each individual equally despite gender, race, appearance, background, language proficiency and abilities, which I believe the learners acknowledged and appreciated. This enhanced the learners' sense of self-competence.

We emphasised learning through the attitude and environment that we created in the class. I feel that this was further emphasised through the praise and reinforcement provided, as well as the experiential approach to learning, where each mistake is considered a normal step in learning. We encouraged the learners to become more aware of their own thinking through reflective questioning and activities.

5. Group work

The learning environment was social and interactive in nature. Learning was considered to be a social interaction. The learners were placed at the centre of the learning process, whereby they were the agents that facilitated the entire learning process. The learners were very unsure about this approach to learning at first, as it was in contrast to the teaching approach that they were familiar with. As time progressed, the learners' sense of confidence and feelings of security increased, for example with their confidence and ability to answer questions in the sessions and engage in discussions. The learners became more involved as they became more familiar with the process of learning as a group.

The use of group work and social interaction fostered a sense of belonging amongst the learners. This was enhanced through positive reinforcement and praise of their efforts, rather than punishment or negative reinforcement. The learners were encouraged to make contributions in a group setting, and work towards a shared goal, also created a feeling of belonging. The open environment, whereby mistakes made were considered a normal part of learning, and questions were welcomed, further developed the sense of belonging. I feel that the specific group of learners all meeting on certain days, also fostered a sense of being important and belonging. The use of set seating, in their groups created a feeling of familiarity and security.

The beliefs and high expectations held by us as implementers of the intervention, also developed a sense of pride in the learners, which led to fulfilment of such expectations and goals.

The use of group work led to the development of the learners' social skills, motivation, sense of belonging, responsibility and confidence. The learners became familiar with the idea of working towards a common goal, as well as communication and problem solving in a group setting. Through group work the learners played more of an active role, which shifted the focus from teaching to learning. Through so doing, the learners became intrinsically motivated, the learning environment was enhanced and the learners were able to feel that their opinions and input was valued.

Regulation and control of behaviour was encouraged through the use of positive reinforcement. The learners were praised for their ability to work and behave effectively as a group. They were rewarded for positive group behaviour, for example they would be allowed to walk out of the session or get their food first. As the sessions progressed the learners showed an increasing ability to work in a group, which demonstrates an ability to have self-discipline and influence the group as a whole.

There were various disadvantages of using group work. The learners were very unsure of learning and working in a group setting, as this was different from what they have previously experienced in the classroom setting. Many of the learners on reflection complained about heightened noise levels and disrespect from the learners towards the facilitators. The learners therefore indicated feelings of annoyance due to the decline of environment and learning. Other disadvantages of group work identified include varying levels of participation of learners in the groups and the influence of lack of motivation of some group members. It was noted by us as facilitators that some learners would lead in the groups with regards to the discussions and activities; others would merely follow and not give their own input.

6. Goal seeking, setting, achieving and motivation

Our goals as researchers for the sessions involved positive experiences for the learners, learning, application, transference, enrichment of the learning experience and positive reinforcement of desired behaviour or learning.

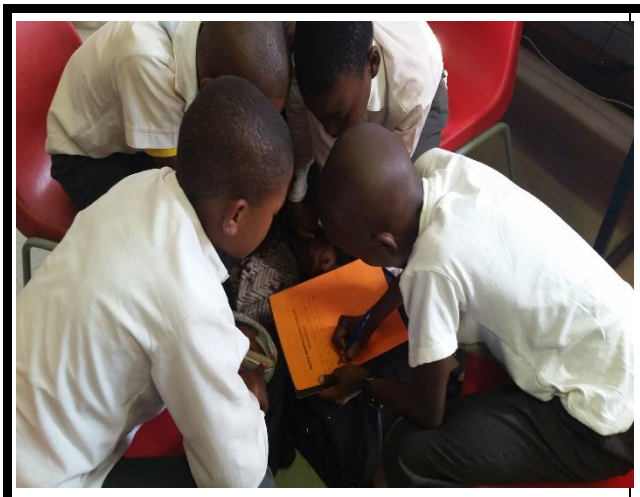
The learners' goals seemed to revolve around receiving certificates, stickers, food, to teach their friends and families, complete their work and therefore learn, try their best and participate. All of the above mentioned goals of the learners were thus realistic in nature.

We made use of external motivation through the use of praise, stickers, certificates for attendance and food. Intrinsic motivation was not immediately evident, although it gradually began to develop over the course of the sessions. Intrinsic motivation began to develop within the learners as they began to demonstrate a sense of pride regarding what they had learned or created. A feeling of being responsible and fulfilling an important duty of transferring knowledge to others began to grow. Overtime the learners became aware that learning rather than teaching was being emphasised and that their efforts were valued regardless of the outcome.

7. Additional information gained

In many ways information and findings emerged that we had not planned for or intended. We were able to gain data regarding the process of learning, and how the learners made use of initiative, were able to think reflectively and in a metacognitive manner. We were able to gather information regarding how they adapted to the use of an experiential method of teaching, whereby they had to work collaboratively in groups, where this was not the familiar approach to teaching. We gained information that indicated that the learners began to value learning during the course of the intervention. Learner motivation, sense of competence and feeling of belonging was enhanced throughout the intervention, indicating the possibility for change in the school setting if the correct class milieu is created and fostered.

Appendix I: Visual data

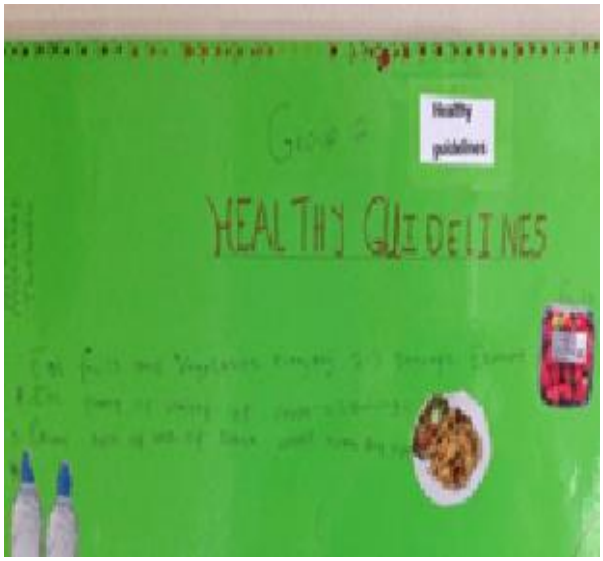
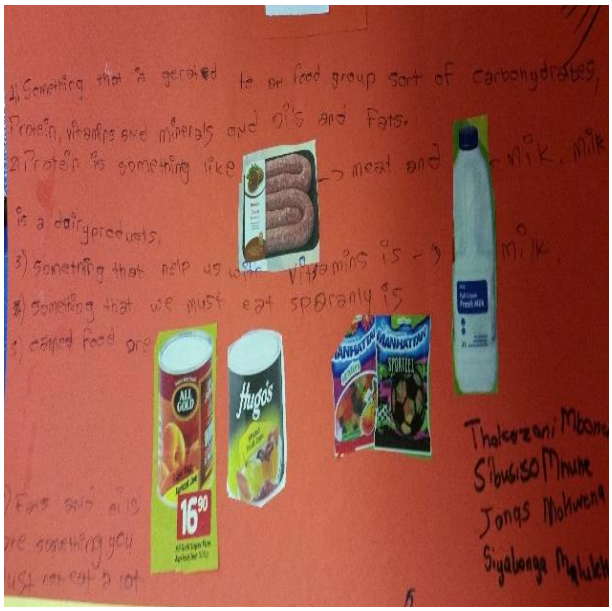
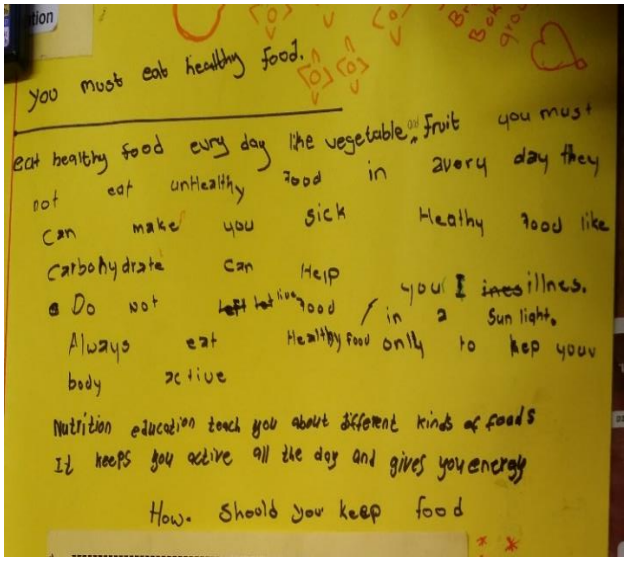
	
Learners working collaboratively in groups. Confidence with regards to their ability to perform the activities increased.	Learners raising their hands to ask for assistance.
	
Learners raising their hands to give input demonstrating active involvement.	Learners participating with enjoyment in class discussions.

	
Learners taking part in competitions and games that require interaction amongst the various groups.	Enjoying working in groups to find answers.
	
Group members enjoying working together to reach a shared goal.	Cutting and pasting activities. One of the alternative activities used. Working collaboratively in their groups.

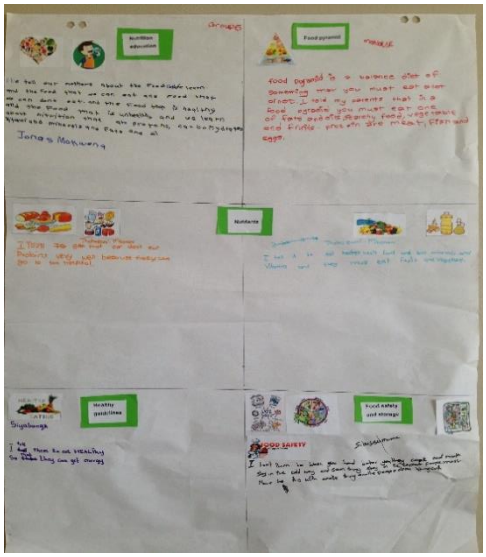
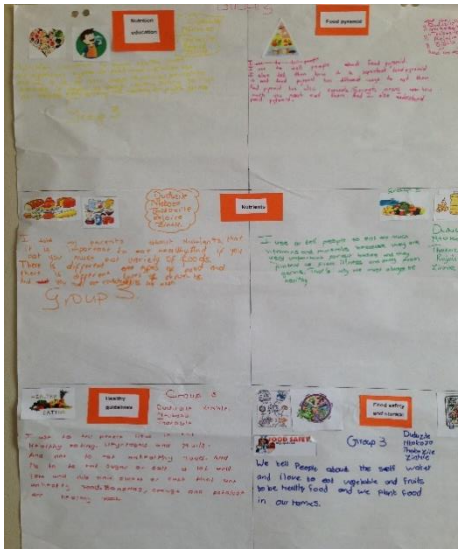
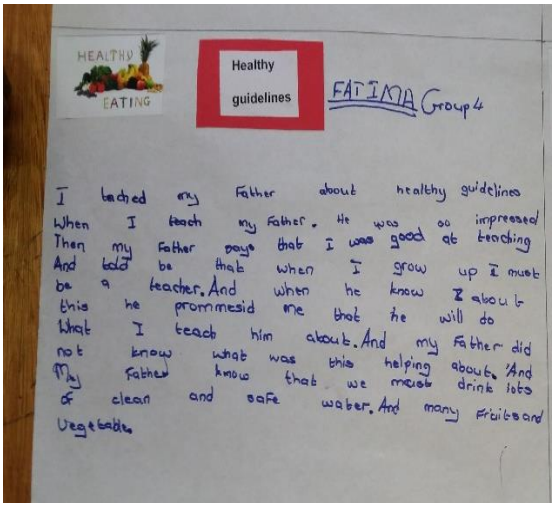
	
Active involvement of group members in learning process.	Collaboration towards shared goals.
	
Learners reflecting on the intervention, whereby each member gives their thoughts and feelings in different colours.	Plates of food drawn by learners and laminated. One of the alternative and creative activities used.

	
Keyrings made by the learners containing the information learned in a simplified format.	Learners working together to form a plate of food for a given meal.
	

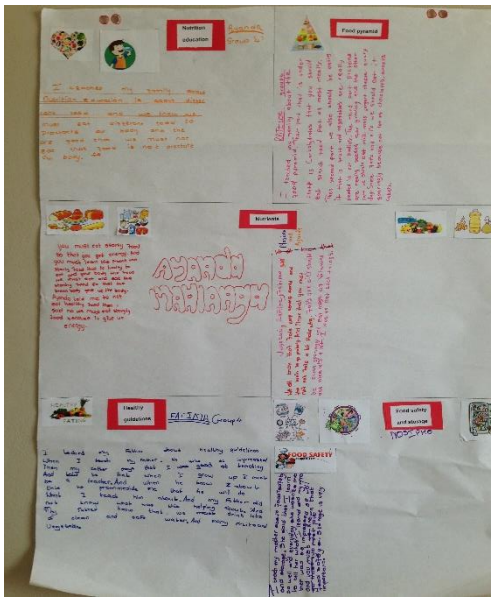
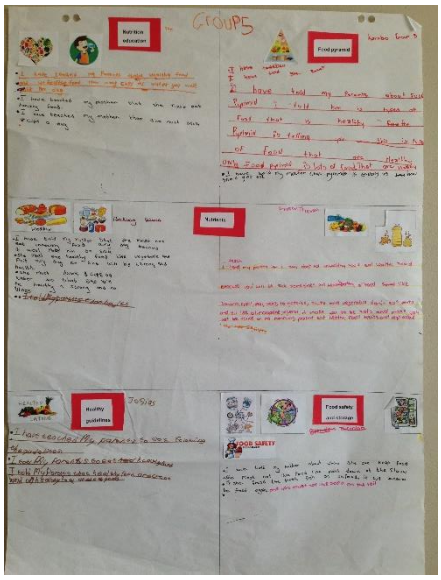
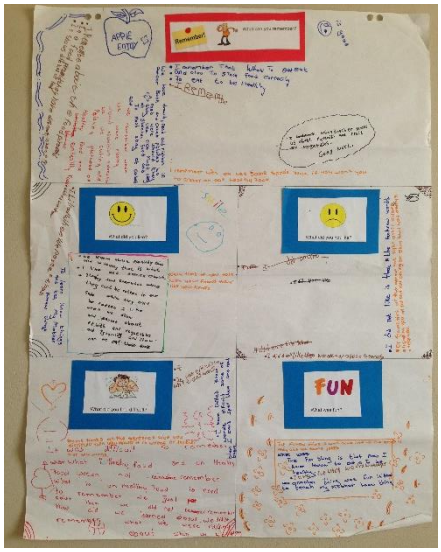
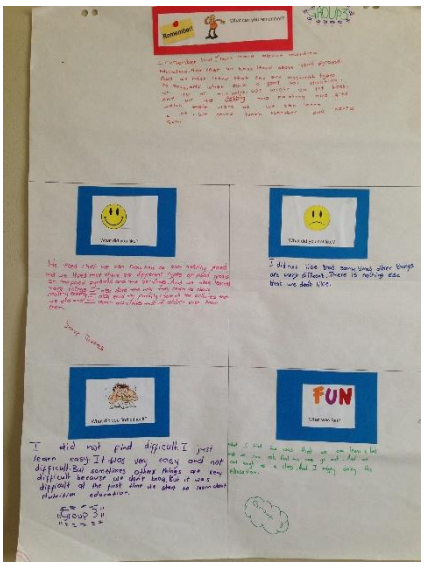
Inclusion of the various food groups and application of guidelines for healthy eating.	Alternative activity used to demonstrate learners potential application and skills following the enriched curriculum.

	
Knowledge regarding healthy guidelines demonstrated by the learners	Knowledge regarding food safety and storage demonstrated by the learners
	

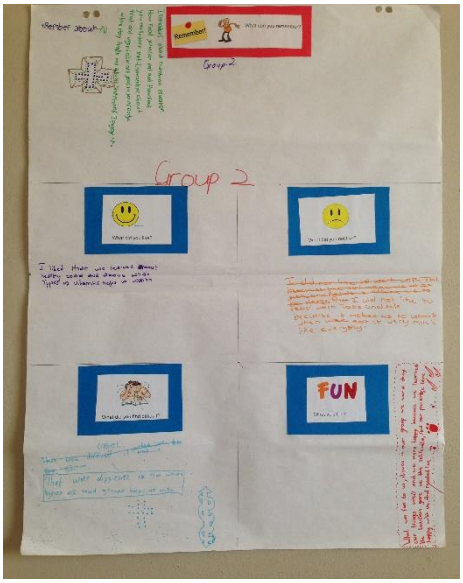
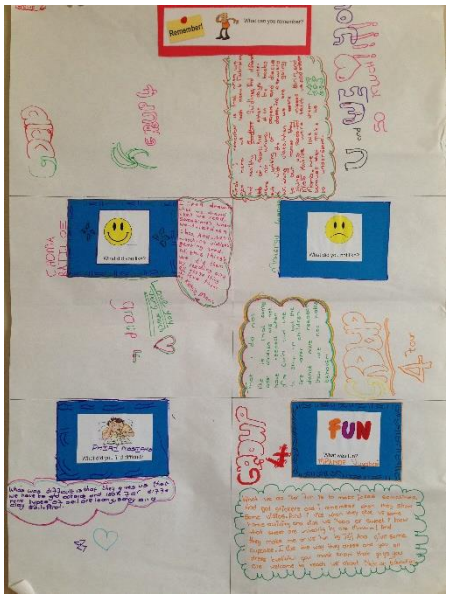
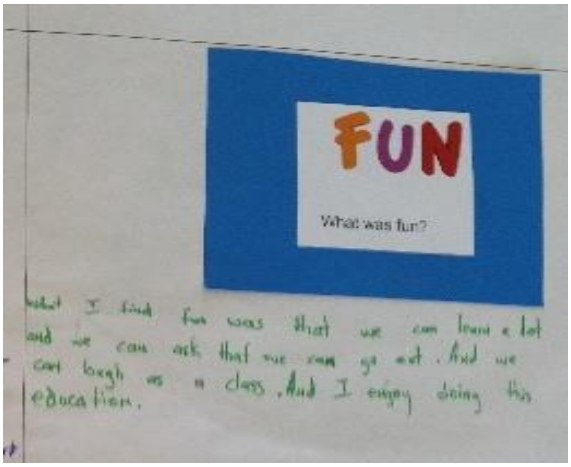
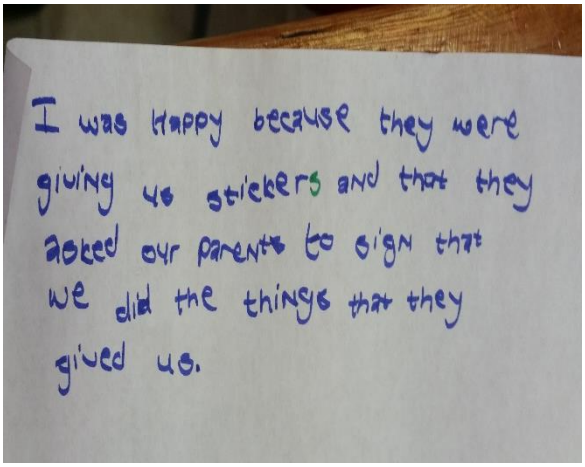
Knowledge regarding nutrients demonstrated by the learners	Knowledge regarding nutrition education demonstrated by the learners

	
Knowledge regarding the food pyramid demonstrated by the learners	Reflection on what they had taught their families (analysed in transcription)
	

Reflection on what they had taught their families (analysed in transcription)	Positive response experienced when “teaching” family members what they had learned during the sessions. Thus feeling of pride and enjoyment experienced, thus acting as an incentive.

	
Reflection on what they had taught their families (analysed in transcription)	Reflection on what they had taught their families (analysed in transcription)
	

Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)	Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)

	
Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)	Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)
	

Enjoyment of the process of learning.	Positive response to positive reinforcement through the use of stickers. Enjoying sharing information learned with their families.

Appendix J

Coded data of PRA and member checking sessions

PRA-Poster 1 (PRA workshop session 2)

What can you remember? Group 6

In the nutrition education I can remember when we learn about the nutrients. What are they helping us with, carbohydrates, vitamins and minerals, fats and oils. We usually write on our book and read and raise up our hands and our teachers will come and tell us what is wrong. After the afternoon we tell our parents to sign.

What did you like? Group 5

We learned about healthy food and unhealthy, that is what you like and learned about storing foods somewhere they can't be rotten where they don't be rotten. I like when we draw and learned about fruits and vegetables and pyramids and how we eat these foods.

What didn't you like? – group 4

That we didn't like. What I did not like is that some other children that are not have respect when Mrs Karien says we must shut up. But the other children don't have respect that are not having behaviour.

What did you find was difficult? – group 3

I did not find difficult. I just learn easy. It was very easy and not difficult. But sometimes other things are very difficult because we don't know. But it was difficult the first time we learned about nutrition education.

What did you find fun? – group 2

Is when they teach us about the food pyramid, they said we must not eat too much food because our teeth will get rotten. I enjoyed when they said do you like pilchards yes or no. we asked our friends about the kinds of tin stuff. We said we like fish or not. And we learned about healthy foods as well. And about nutrition education. It is nice to be busy learning about being healthy.

Group 2

I like that we learned about healthy food and what types of vitamins help us with

PRA-Poster 1 (PRA workshop session 2)

What did you teach your families about the food pyramid?

The pyramid is telling you these are the types of food that are healthy. Healthy only Food pyramid is lots of food that is healthy.

I teach my family how they must prepare food that is healthy but it does not mean they must eat junk. They can just eat junk food on a special day.

Did they know this before?

Yes and no

Are they happy you taught them something?

Yes

What did you teach your families about nutrients? – group 5

I teach my parents I said don't eat unhealthy, eat healthy because you will be sick sometimes. Eat healthy foods like banana, apple, pears, grapes, fruits and vegetables. Don't eat fats and oils like oil, margarine. It makes you to be fat. Eat healthy fruits and vegetables.

What did you teach your families- group 3

I teach my families about food pyramid and I also tell them about how important food pyramid is. And food pyramid has different ways to eat them. Food pyramid also has servings to eat them. Serving means how much you must eat them. And I also understand food pyramid

Eat healthy food, vitamins and minerals and eat fruit every day. I teach my mother about the food that we learn, the food we can eat, the food we cannot eat.

Group 6

I told my parents that it is a balanced diet of what you can eat or not. I told my parents that in a food pyramid you must eat one of starchy food, vegetables, protein, and protein are meat, fish and eggs

Group 5

I told them to eat healthy so they can get energy

Group 6

I tell them that it can eat proteins every day, because they can go to the hospital

I tell them that they must wash hands before they cook and bake. People must never eat unhealthy things like coke

Group 4

Food pyramid as it is it is small, bigger, bigger and big. We should be eating more of carbohydrates as it has rice, spaghetti and everything. In the second block we should be eating fruits and vegetables. We should be eating milk, yoghurt, cheese everyday because they are important. Proteins are needed to. Fats and oils should be eaten sparingly,

Did you teach your families about this?

Yes

Did they know about this before?

No. they know after we teach them

PRA-Poster 2 (PRA workshop session 1)

Group 1 – Nutrition education

Nutrition education is preparing of food that we must eat like healthy food groups like carbohydrates, we must eat lots of them bit not them only, we must eat all different. And it tells us what we must eat sparingly, and what we must eat most. Like fats and oils we must eat them sparingly.

We must eat this different types of food like

> carbohydrates (rice, flour, maize meal), this type of food gives us energy so we must a lot of them,

proteins (eggs, fish fingers, chicken, lamb), this type of food gives us to be healthy

fats and oils (stork, oil), this type of food we must eat it but we must eat it sparingly

and dairy (yoghurt and milk), this type of food we must have it everyday

This is a type of food that we must eat it very nice like fats and oils we must eat it but not every day because it makes us sick when we eat it every day. But dairy we must eat it a lot, but we must eat carbohydrates

Group 2 – healthy guidelines

Eat fruits and vegetables every day. 2-3 servings. Example (strawberries) fruits and (mielies) vegetables

Eat plenty of variety of foods. 2-3 servings

Drink lots of lots off clean water every day e.g. 8 glasses

Eat starchy foods every day. 6-7 servings (rice, bread)

Eat many types of lentils every day (peas)

Eat protein everyday (sausage, chicken)

Eat fats and oils sparingly (stork)

Eat dairy foods every time (yoghurt, milk)

Be active

Group 3 – food pyramid

Bottom – carbohydrates, 6-12 servings, (rice, spaghetti, bread, rolls, macaroni, flour)

2nd – vegetables, 3-5 servings (onions, lettuce, beans)

-fruits, 2-4 servings (orange juice, strawberries, pineapple, apples)

3rd – dairy food, 2-3 servings (milk, yoghurt, custard, cheese)

- Proteins, 3-2 servings (sausage, eggs, chicken)

Top – fats and oils, use sparingly (oil, stork, cake, chocolates, jungle oats bars)

Group 4 – food safety and storage

Keep food away from chemicals (laundry detergents)

Do not leave your food near the sun (sausage and sun)

You must make sure you drink clean safe water

You must look at the expiry date (canned food)

Keep chicken, egg and fruit in the fridge so that they don't go rotten

You must keep starchy foods in the cupboard away from insects or small bugs (flour)

You must keep fresh milk in the fridge

You must put the corn flakes in a tight container

Unripe food must be kept in room temperature (avos)

Group 5 – nutrition education

Healthy food

Strawberries, fresh milk, vegetables (peas, corn, etc.). brown bread, avos, lettuce, eggs, fruits (apples, pears, etc.), yoghurt, maize meal (mielies)

Unhealthy food

Biscuit, nik naks, cake, sweets, chocolate, coke, burger

You must eat healthy food; eat healthy food every day like vegetable and fruit. You must not eat unhealthy food in every day they can make you sick. Healthy food like carbohydrates can help your illness. Do not leave food in the sun. Always eat healthy food only to keep you body active.

Nutrition education teach you about different kinds of foods. It keeps you active all day and gives you energy. How should you keep food.

Group 6 – nutrients

Something that is gerated to an food group sort of carbohydrates, protein, vitamins and minerals and oils and fats.

Protein is something like meat and milk. Milk is a dairy product.

Something that help us with vitamins is milk.

Something we must eat sparingly is sweets.

Canned foods are apricot jam and mixed fruit jam.

Fats and oils are something you must not eat a lot

Starchy foods help us with energy and types of starchy foods are rice and porridge.

Plates (PRA workshop 2) – audio transcription

Breakfast – group - 3

Meat, cheese, water, danon, orange, milk, cornflakes

Why did you put these things on?

Because it carbohydrates, proteins, vitamins and minerals and dairy. It will give us energy

Breakfast – group 4

Milk, apples, avocado, carrots spinach, teabags, cheese and eggs, bread

Why did you put these things on here?

Why did you put the bread on? What is it good for?

Growth

What food group is it?

Starchy foods

Okay so you have starchy, what else do you have?

Fats and oils, proteins, vegetables, fruits

Lunch – group 6

What's on your plate?

Orange, avocado, milo, chocolate, egg, palony, yoghurt, bread, juice, milk, water and some chocolate

Why did you put these things on here?

Why did you put the egg on?

Because its snacks

What food groups did you put ion here? What else can you see?

Fruits, starchy foods, egg

Egg what type of food group is that?

Protein

Yes good. I can see starch, fruit and protein what else?

Vegetables and dairy and water

Supper – group - 5

What is in yours?

In supper we put vegetables, proteins, starchy foods and fats and oils

Why did you put these things on?

We put them on because they are healthy

Can you see all the food groups?

Yes

What have you got?

Rice, carrots, spinach, lettuce, lucky star, water and this for desert (chocolate).

Why did you put these things on here?

So you don't get hungry in the middle of the night

Good so you have starchy foods for that. And what else? Which food groups do you have here?

We have proteins, rice, spinach too be healthy and lettuce

Lunch – group 1

Simba chips, danon, Melrose, bread, jam and lettuce and orange and tropica and water

Why did you put those things on the plate?

Because brown bread is healthy and lettuce is very healthy and danon juice has vitamins.

Which things from the food pyramid can you see here?

Dairy, starch, vegetables

Which food group is not on here?

Fats and oils no it's got jam. Proteins

Transcription of audio recordings – Member checking

What did you do that was fun? What can you remember

When we were cutting and pasting (participant - 10)

Word search (Participant – 11)

Learning about healthy food and unhealthy food (participant – 9)

The stickers you gave us (participant – 10)

What did you like about working in groups?

We can help each other when someone is wrong (Participant – 7)

Telling each other what to do (participant – 5)

Working with friends (participant – 4)

What activities did you like?

Making healthy breakfast, lunch and supper (participant – 7)

What did you not know before?

How much water you must drink each day (participant – 3)

Not eat one thing again and again (Participant – 4)

Healthy guidelines (participant – 12)

did you teach your families

did they like it?

Did you enjoy teaching them?

How many of you have started using the healthy guidelines?

Majority of learners raised their hands (participant – 23)

Which healthy guidelines do you find difficult?

Also the water (participant - 17)

Forgot not to eat too much chocolate (participant – 14)

Do you agree, do you feel you became more confidant?

Yes (participant 21)

How did that feel?

Happy (participant – 2)

Excited (participant – 2)

What was it like acting like the teacher?

It was nice and enjoyable (participant – 16)

Did you feel like you were treated like you were special?

Yes (a group of learners)

W*hat made you feel like that?*

Everyone got a chance to give answers (participant - 15)

Did you feel respected and valued?

Yes (whole group)

Did you feel like we listened to you when you spoke?

Yes (whole group)

Did you think that we helped you when the work was difficult?

Yes (whole group)

How did we help you?

You explained the work to us (participant – 6)

You helped us to understand (participant – 7)

You corrected us (participant – 7)

Was that a good thing?

Yes (whole group)

Did you like the certificates, the stickers and the food?

Yes (participant - 10, 11, 14)

Why did you like it? What about it did you like

Encouraging us to come more (participant – 11)

How did it make you feel?

It made us feel special (participant - 11)

Is there anything else that you liked that isn't on here? Remember we are here to learn from you. We want to know what we must include next time.

That's all (whole group)

Did you find that the work was a bit difficult? The workbook?

Yes (a number of learners)

No (a number of learners)

What words in the book did you find difficult? Were there words that were big?

No (most of group)

Should we make the workbooks easier or keep them the same?

Keep them the same (few learners)

Who found it noisy when we worked in group?

Yes

It was okay

Was it sometimes difficult to remember the information?

Yes (whole group)

Is there anything not on the poster that you didn't like that we can make better?

You leave too early (participant – 19)

So we must make the sessions a little bit longer?

Yes (whole group)

Nothing else you can think of?

Yes (whole group)

Is there anything you can tell us about your time with us that wasn't on the posters?

No (whole group)

What are you writing about?

I liked that we learned new things (participant – 10)

I learned things that I did not know (participant – 10)

You explained things to us (participant – 21)

Did you find that it got a bit noisy or some of the members didn't help?

Some boys made noise and didn't respect each other (participant– 12)

I found it a bit noisy (participant – 14)

What are you writing about?

I liked the cutting and pasting because it helped me to learn (participant – 1)

We liked discussing things with our friends because then we can help each other (participant – 1)

I liked that you were patient with us (participant 27)

You helped us to understand (participant - 22)

What I didn't like is when they made noise because then we couldn't understand (participant – 1)

Did you think sometimes that not everyone helped?

Yes (participant - 3)

Did we take into account your background?

Yes (participant – 15)

You treated us the same and helped us (participant – 15)

What are you writing about?

I like that you give us a chance to give answers and you helped us when we don't understand. You helped us to understand better (participant – 20)

Do you think we looked at each of you and what you like, don't like, etc or did we treat you all the same?

You treated us well (participant - 11)

Do you think that sometimes not all the group members helped?

No everyone gave answers (participant - 5)

What are you writing about?

I liked that you gave everyone a chance to say their own answers, you helped us when we gave incorrect answers (participant - 16)

Do you feel that we made sure you each gave you your own chance to give your own answer?

We feel like you gave everyone a chance to say his or her answers (participant - 19)

Do you feel like you grew? Like at the beginning it was a bit scary and then you became more confidant, or not?

Yes at the beginning it was a bit scary and we were nervous because we didn't know you. (participant – 7)

What felt scary?

Sometimes it is scary because you not sure of the answer you are telling is true or ot true (participant – 7)

What are you writing about?

I did not like it because the other groups kept making noise and did not listen to the teachers. It was difficult to understand. (participant - 9)

I found that the words were difficult. (participant - 17)

Do you think you got more confidant and grew?

Yes (participant 7)

What are you writing about?

I like to learn something about what you teach us.(participant - 7)

We didn't like that some children laugh at others (participant – 15)

Did you find that sometimes not all the group members helped?

Yes (whole group)

Is there anything else?

No (whole group)

What are you writing about?

I liked learning. The servings was new information. (participant – 14)

Were the workbooks too hard?

No (most of class)

What do you think about having to work in groups?

It was nice working in groups and helping each other. (participant – 10)

You helped us when we found something difficult (participant - 4)

What did you find difficult?

I found difficult when we were talking about vitamins and what they help us with (participant 12)

Appendix I

Excerpts from field notes and reflective journal of researcher

Supervisor's field notes:

Field notes: Implementation of the Win-LIFE intervention

Date	5 August 2015 (Session 1: Lesson 1, part 1 & 2).
Facilitator	Kaitlyn Bentley
Observer	Karien Botha
Length of session	14:15-15:15
Participants	15 boys and 16 girls (Total: 31 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- Mrs Mokwena welcomed us at the school, gave the informed consent letters from the parents to us and indicated that 31 learners will be attending the intervention. She took us to the computer room and said that we can work there with the learners. Unfortunately there is not a lot of space available and only chairs for the learners to sit on.

- We greeted the learners, introduced ourselves, divided them into 6 groups and started with the reason for our visit, talked about 'research' and gave the learners some background information about the project. There after we discussed informed assent with the learners and explained voluntary participation to them. We emphasized the following: "You can decide if you want to take part in the activities; You can say 'yes' or 'no'; No one will be upset or angry if you say 'no'; You can say 'no' at any time; We would still take good care of you no matter what you decide".

We concluded the discussion about their participation in the project with the following: "If you want to be part of the research we talked about, please write your name below. This is just to show that we talked about the research and that you want to take part in the activities". Learners then signed the informed assent forms.

- Workbooks were distributed and we started with Lesson 1 (Part 1 and 2) on p.7 and 9.
- Kaitlyn specifically asked the learners what they know about Nutrition Education.
- Learners were a bit shy and hesitant to participate. She decided to focus on the definitions in the workbook and afterwards asked them again about their knowledge of Nutrition Education. More learners participated.

- We concluded the session with a reminder about the next session and gave the learners something to drink and eat.

Date	12 August 2015 (Session 2: Lesson 2)
Facilitator	Kaitlyn Bentley
Observer	Karien Botha
Length of session	14:10-15:00
Participants	15 boys and 16 girls (Total: 31 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we did some revision on Nutrition Education (Lesson 1). We asked them to write their own definitions of Nutrition Education as a group. The group activity seemed to be something 'new' to them. They seem resistant about the writing. We emphasized again that we don't focus on spelling and writing skills – we really want to see what they have learned (content).
- We gave the learners the definition on a yellow paper and read it together.
- We continued with Lesson 2 on p.11. Kaitlyn asked the learners what they know about 'nutrients', where does it come from etc. Learners were very interactive and engaged well.
- We discussed different examples of nutrients with learners. Again we distributed definitions and simplified the most important information on another paper (lilac color) to put in their files and discuss with their parents.

- We concluded the session with a reminder about the next session and gave the learners something to drink and eat.

Date	17 August 2015 (Session 3: Lesson 3)
Facilitator	Kaitlyn Bentley
Observer	Karien Botha
Length of session	14:10-15:00
Participants	14 boys and 14 girls (Total: 28 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we did some revision on Nutrition Education (Lesson 1), Nutrients (Lesson 2) and started with Lesson 3a and b.

- We focused on the different food types, examples and nutrients they provide (Lesson 3a). Learners continued with Lesson 3b and really enjoyed this practical activity. We concluded the session with a reminder about the next session and gave the learners something to eat and drink.

Date	28 August 2015 (Session 5: Lesson 5a & b)
Facilitator	Kaitlyn
Observer	Karien & Mariaan
Length of session	14:10-15:00
Participants	14 boys and 16 girls (Total: 30 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we emphasised parent involvement and the importance of their homework activities.
- Kaitlyn asked the learners what they remember about the work we did previously. Learners participated eagerly.
- We did revision Nutrition Education, Nutrients, examples of food that give energy, helps with growth and keep us healthy.
- Hereafter Kaitlyn started with Lesson 5a & B (Vitamins).
- In her explanation and discussion with the learners Kaitlyn simplified everything and we decided to focus on the most important function of the vitamin, as well as the

most important example. More information is included in the workbook. Colored papers with the most important information were given to the learners and we continued with the activity on p.2

- We reminded learners throughout that they only need to remember the most important function and example, also during the activities emphasized that we don't look at spelling.
- We ended with a competition among the groups where they had to ask another group a question about the vitamins we focused on during the session. Learners enjoyed this game!

Date	2 September 2015 (Session 6: Lesson 6)
Facilitator	Kaitlyn
Observer	Karien
Length of session	14:10-15:15
Participants	13 boys and 15 girls (Total: 28 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners Kaitlyn did some revision about the vitamins we focused on previously and continued with the food pyramid. Not enough chairs were available and some of the learners had to sit on the floor during this session.

- Kaitlyn started by asking learners what they know about the food pyramid. She continued with the lesson on p.31. We decided again to simplify everything and to focus on the most important information. Learners were given information on colored papers and requested to do the activities individually on p.31 and 35

Date	4 September 2015 (Session 7: Lesson 7)
Facilitator	Kaitlyn
Observer	Karien & Mariaan
Length of session	14:10-15:00
Participants	14 boys and 16 girls (Total: 30 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we did a group activity with the learners by asking them as a group to write about what they have learned regarding healthy eating. They seemed to be more at ease with the writing activity than previously.
- We continued with the lesson on healthy eating guidelines by reading through the guidelines and asking different question about the guidelines to the learners.
- We continued with the Lesson 7b and gave Lesson 7c for homework. We continued with Lesson 7d and did this with the all the learners at the same time. Kaitlyn read the statement and learners had to indicate true or false. They really enjoyed this. Some learners seemed unsure and waited until the others gave their answers (especially some of the boys. We continued with Lesson 7e and ended with Lesson 7f.

Field notes: Implementation of the Win-LIFE intervention

Date	7 September 2015 (Session 8: Lesson 8)
Facilitator	Kaitlyn
Observer	Karien & Mariaan
Length of session	14:10-15:15
Participants	13 boys and 16 girls (Total: 29 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- We started with a group activity on nutrients, where groups were requested to indicate the most important functions of the indicated nutrients.

- Hereafter Kaitlyn continued with revision about guidelines for healthy eating.
- Learners seemed to have a clear understanding and knowledge about the guidelines for healthy eating.
- We continued with Lesson 8 and the definition of foodborne diseases. We distributed the definition on colored paper, Kaitlyn explained the definition and asked the learners questions about the definition.
- We continued with the activity on p.45. Kaitlyn explained the activity, read through the guidelines for safe storage of food and asked the learners to draw a picture next to the indicated guideline. Seems as if the learners immediately understood the activity. We continued with the word search. Learners were requested just to do the first 3 words and do the rest for homework together with their parents.
- We continued with the activity on p.46 and 47. During this activity questions were asked throughout. After Kaitlyn read the requirement she asked for example: what is room temperature, airtight containers etc. If the learners were unsure, Kaitlyn explained the answer to them. We did the first 3 and gave the rest for homework.

Date	11 September 2015 (Session 9: Lesson 9)
Facilitator	Kaitlyn Bentley
Observer	Karien & Mariaan
Length of session	14:10-15:00
Participants	12 boys and 15 girls (Total: 27 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- After greeting the learners we asked about their homework and realised that all of the learners did not complete their homework. We kindly requested that they do when they have time. And continued with the activity on p.49. Kaitlyn read through all the questions while the learners filled in the blank questions. Learners were again reminded that we don't look at spelling or writing skills.
- Hereafter Kaitlyn started with the final revision process.
- During this revision session she focused on Nutrition Education, Nutrients, types, functions, healthy food, good food, bad food, food quality and safety, a balanced diet, how much we need to eat, functions of vitamins or minerals.

Date	21 September 2015 (Session 1, PRA-based workshop)
Facilitator	Kaitlyn Bentley
Observers	Ronél, Dinah and Karien
Length of session	14:10-15:30
Participants	13 boys and 15 girls (Total: 28 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- Kaitlyn introduced Ronél to the learners and indicated that we are going to focus on what they have learned the past few weeks. She also stated clearly that we don't focus on spelling etc. The most important aspect is enjoyment and to see what they have learned
- During the first activity Kaitlyn gave the six groups, six different topics and requested the groups to make posters about the topic

- Topics included: Nutrition Education (x2 groups), Nutrients, Food safety and storage, South African Guidelines for Healthy Eating and Food Pyramid
- Kaitlyn told the learners that they are the teachers and will have to tell or learn the rest of the learners about their topic
- Learners were given cardboard and stationery and were requested to make a poster about their topic
- Learners were eager to start and planned their posters in detail
- Kaitlyn furthermore told the learners that their posters will be displayed in the Life Orientation classroom
- Learners enjoyed the feedback and to act as 'teachers'. Learners seem much more confident than a few weeks back
- The working environment was positive, with learners implementing cooperative learning (without even realising it!)
- From the posters and feedback it was evident that the learner's knowledge, skills and insight about healthy eating habits and nutrition developed (specifically in terms of the content we did with them as part of an enriched grade 5 curriculum)
- I am amazed at their knowledge gained. Kaitlyn did such an amazing job and these learners enjoyed every second of the sessions she presented

Date	22 September 2015 (Session 2, PRA-based workshop)
Facilitator	Kaitlyn Bentley
Observers	Ronél, Karien and Mariaan
Length of session	14:10-15:30
Participants	14 boys and 16 girls (Total: 30 grade 5 learners)
Place	Computer room, Vezulwaze Primary School

- Kaitlyn greeted all the learners and indicated that we are going to do a reflection activity where they need to think back about what we did during the sessions
- Learners were requested to complete another poster (Activity 1) and specifically need to indicate what they tell their family about for example Nutrients, Nutrition Education, Food Pyramid, Healthy Guidelines and Food Safety and Storage
- Learners were requested to complete all four sections individually
- Kaitlyn and Mariaan moved around between the six groups and assisted the learners by explaining the activity again to them
- Hereafter learners were given another poster to complete and were requested to indicate what they liked, disliked, what was difficult and what was fun
- Hereafter we did the plate activity with the learners
- Learners were requested to create their own plate of food for breakfast, lunch and dinner from the bags with different food examples
- Learners were extremely excited about this activity and enjoyed it very much. They even requested to do some extra plates!
- Learners were reminded about the next lesson with Mariaan

Co-researcher's field notes:

Description	Notes
Dates	2015/08/28
Project	Win-LIFE
Where?	Bronkhortspruit.
Physical setting	Vuzalela Primary School
Length of session	Session 1- start 9;30
Activities	
Participants	Kaitlyn Bentley Karien Botha Mariaan de Vos Male: 16 Female: 14
Informal interactive conversations with participants	Teachers (today) Parents Learners
Revision	Nutritional Information Names: Proteins e.g meat Fats and Oils e.g. Margarine, cooking oil Carbohydrates e.g. gives energy- bread, pasta Vitamins and minerals e.g. Apple, pear, banana, spinach, cabbage, lettuce, tomatoes. Focus on a healthy balanced diet. Foods that give you energy: maize meal Grow: eggs, yoghurt
Today- Vitamins	That are in our foods. Lesson 5a. Participants read aloud from p. 25. Vit A= eye sight

	Vit B= to be healthy Vit C= healthy immune system (fights illnesses) With each vitamin, participants name favourite foods with vitamins). Interactive. Vit D= Sunlight Vit E= Protects your skin
Activity p. 26	Completes activities Encourages participants – individual interaction Gives each participant a chance to answer questions Makes sure that everyone understands Draw pictures of food types, and label them Walks around, make sure that all participants understand and are on-task Participants complete task independently Participants portray good reading abilities Group activity- reads questions to other groups Good interaction and communication
Description	**Notes**
Dates	2015/09/07
Project	Win-LIFE
Where?	Bronkhortspruit.
Physical setting	Vuzalela Primary School
Length of session	Session 1- start 14;30
Activities	
Participants	Kaitlyn Bentley Karien Botha Mariaan de Vos Male: 13

	Female: 16
Informal interactive conversations with participants	Teachers (today) Parents Learners
Revision	Nutritional Information Food groups revision through questions Carbohydrates Proteins Oil and fats Vitamins and minerals Complete group activity Revise food guidelines – “drink water, be active, make starchy foods part of every meal, use salt and sugar sparingly, eat fruits and vegetables, eat legumes, eat lean meat, eat a variety of foods”.
Today- Guidelines for healthy eating	Food safety, preventing food borne illnesses.
Activity p. 44	Completes activities Encourages participants – individual interaction Gives each participant a chance to answer questions Makes sure that everyone understands Walks around, make sure that all participants understand and are on-task Participants complete task independently Participants portray good reading abilities Good interaction and communication Draw pictures of food safety p.45 Wordsearch Focus is on individual experiences and not to copy one another Understand instructions- make sure

Pink handout	Different types of food and storage instructions Time frames discussed Expiry date- date that is written on top of tin Fridge, freezer, room temperature Questions asked to clarify if participants understand new content P.46 & 47

Description	**Notes**
Dates	2015/09/11
Project	Win-LIFE
Where?	Bronkhortspruit.
Physical setting	Vuzalela Primary School
Length of session	Session 4- start 14;30
Activities	
Participants	Kaitlyn Bentley Karien Botha Mariaan de Vos Male: 12 Female: 15
Informal interactive conversations with participants	Teachers (today) Parents (homework) Learners
Revision	Nutritional Information- group revision exercise (learners are very unsettled, talking, not focussed) **Food groups revision through questions** What is nutrition education?

	Teach us about healthy food Teach us to eat healthy food Tells us about different food groups: Carbohydrates Proteins Oil and fats Vitamins and minerals **What else?** Food quality and safety, how to cook food. Nutritional values Best food choices Serving size
Observations	Participants have retained new information Active participation Participants struggle to provide own answer if they have information in front
Homework	Homework was not completed by all the participants. Twelve participants competed their homework
P.49	Spelling and handwriting does not matter. Complete activity. Writing activities remain a challenge. Participants responded positively to the stickers as motivation.

Reflective journal

Initial session-5 August 2015

I was slightly nervous going the first day to the Nutrition Education sessions, as I was unsure what was going to unfold, and we had no idea how many learners would attend, and if they would be willing to learn, as the sessions were extra lessons placed after school hours.

We were also concerned that we may need to simplify the content for the learners, as we began to realise that the content was perhaps to advance in terms of vocabulary etc. We did simplify what was presented, however, we came to realise that the learners could manage more than what we expected.

31 learners attended. We were not anticipating such a good turn up rate. We questioned whether the food was a determining factor. We also realised in the first session that we had been allocated a group of learners who have barriers to reading. This created a sense of frustration as we realised that the school did not understand the reason for the intervention and the purpose of the entire process. We questioned the need to ask for more learners. As the session progressed we were surprised with these learners ability to read. A complex definition such as that of nutrients was read spontaneously in unison by the entire group with ease, which included large words such as components. Their reading comprehension ability may be a weaker factor; however, we were pleasantly surprised by their ability to read fluently in their second language, regardless of the school's label of being reading barriers learners.

Quiet, particularly the two groups of boys at the back. Unwilling to write, and appear nervous to perform. We continually reinforced that spelling and handwriting was not important as this is not "school work".

2nd session – 12 August 2015

Only one or two participants did not attend the session. This was a positive factor, as we anticipated that we might have a much lower attendance rate. Again we questioned whether they were here for the food, or if they were indeed eager to learn.

We were once again pleasantly surprised by their ability to read in their second language. They were all eager to learn, although they became more resistant with writing activities. They also seemed to be unfamiliar with the idea of working cooperatively together in groups.

28 August 2015

The participants once again stressed the importance of a healthy balanced diet during revision. They were able to identify some foods that help give you energy and those that help you to grow.

The concept of the various vitamins and the functions of each we decided would be too advanced for the participants and therefore we focused primarily on the main vitamins which included: A, B, C, D, E. Even once we cut down the long list of vitamins and their functions it was still complex for the learners, and they appeared to be slightly more resistant with these activities. The fill in the blanks activity appeared to be too advanced for the participants so we therefore worked as a class through the different questions.

The participants are beginning to work in groups with greater ease. They seemed to enjoy the activity where they had to search as a group for the vitamin with a certain function. Competition in a collaborative group appeared to work well. They were eager to read the list of vitamins and their functions in unison.

7 September 2015

The participants were able to effectively revise the healthy food guidelines. Some of the learners were able to name the guidelines word for word. The ability to learn and retain information was therefore identified, which we believe with the necessary support and input could allow them to reach their true potential, which is not necessarily being actualised currently.

The participants communicated and interacted very well. They seem to be enjoying the cooperative learning more, as they begin to become more familiar with the process. Many of the participants were also very eager to draw, and many drew very careful and detailed pictures for food storage.

They thoroughly enjoyed the word search, and started to complete parts of the word search that would set for homework. This could possibly be because they viewed the activity as a game, they are familiar with the activity or it does not rely on expressive writing skills. We were pleasantly surprised at the participants' reading abilities once again.

The learners were aware of what an expiry date is, where you find and why it is important. They were eager to share this information, indicating that they have possibly learned this information elsewhere.

11 September 2015

Not all the participants completed their homework; however, they seemed to be remembering the information from the previous session.

Learners were more resistant with the writing activity; however, there is still a significant improvement since the beginning in terms of writing confidence. We had to go through each question to fill in the blanks one by one as a class. The learners wrote with greater ease when they were reassured that spelling and handwriting does not count.

The participants thoroughly enjoyed being able to ask other people their favourite foods.

Overall (10 September 2015)

The learners were extremely excited about the stickers and the certificates which were given out for getting their families to sign their books, and for attending the Nutrition Education sessions.

The learners thoroughly enjoyed working with the coloured Koki pens. The colourful pictures and posters also seemed to help the learners, and attracted their attention. Based on our previous visits to the school, and the classrooms, we could tell that the use of such visual material is a novelty for the learners.

From the onset, the learners were knowledgeable about the food groups and the food pyramid.

The learners seemed to find the vitamins more complicated, and we had to simplify the work by only focusing on the main vitamins and giving only one or two examples, and the main function of each.

As time progressed the learners' ability to work collaboratively in their groups improved. The idea of working together as a group, rather than just listening to the educator, was a new idea to the group.

The two groups at the back of the room (two boys groups) were very quiet and tended to hide their work when you came to their group. They were not eager to volunteer answers or opinions, and they did not seem to enjoy the writing activities. This improved with time, and eventually they were participating in the discussions, and would ask for help when needed. It helped to stand by those two groups, and provide assistance even when they did not ask. Encouraging the learners that they need to write without being concerned about writing style and spelling seemed to help the learners to write with greater ease. We constantly reminded them that this is not "school work"

The books, and handouts, as well as the posters displayed created a greater sense of confidence amongst the learners with regards to trying to answer, and therefore putting up their hands.

Last session-11 September 2015

Revision was conducted during this session. The learners appear to be absorbing the content. At times the learners were able to give the exact definitions, which was a wonderful surprise for all of us.

At times they confused the functions of the foods; however this is a complicated area. They appeared to know the food guidelines very well.

Overall the group writing has improved significantly. This was a wonderful experience watching the learner's progress from being shy and unwilling to wrote, to being eager to write when given such an activity.

We told the learners that we will be coming three times the following week, and they all became very excited. This was both a positive and negative experience, as it is

wonderful that they are so eager to attend the sessions and learn, however it is sad that they obviously do not receive this level of support in their typical classrooms.

PRA focus group 1-21 September 2015

I was very happy with the amount of data we were able to gather. The learners appeared to thoroughly enjoy the reflection process, and in particular enjoyed the idea of acting as teachers, and creating a poster for learners. I feel that this fostered a sense of confidence and an ability to impart knowledge. The creative aspect of the activity, together with their enjoyment of cutting and sticking activities, created a positive environment in which the task could be completed.

Majority of the learners indicated that they taught people in their families about what they had been learning at the nutrition Education sessions. This was a positive finding, however it needs to be acknowledged that they perhaps felt that they needed to say that they had spoken to their families, and were merely repeating the content of what they had learned.

The posters created during the first PRA-based workshop on the topic “nutrition education” by two of the groups of learners demonstrated their overall knowledge acquired from the curriculum as a whole. The content conveyed indicated the learners’ abilities to show initiative and construct their own knowledge based on all the content taught.

PRA focus group 2-22 September 2015

Once again we were able to gather a great deal of data. The learners were much more eager to write than what we envisioned. Even the two groups of boys at the back, provided a great deal of information. The groups were all willing and eager to discuss their reflections, and read theirs to the rest of the class. This seemed to foster a sense of pride and confidence.

The plate activity, whereby the learners were asked to make use of various foods they had been given to create a healthy plate of food, for someone their age, according to a given meal time, was conducted. The learners seemed to thoroughly enjoy this activity and were eager to begin. They were very excited to show us what they had created, and were happy to create more plates once they had completed

their first plate, some of the groups continued and did each meal time out of their own initiative, each time eager to show the facilitators what they had done. Overall the choice of food was healthy, and included most of the food groups, however the quantity of food placed on the plates was high, however it needs to be acknowledged that they were working in groups of five or six, and therefore each learner would have different ideas, particularly with a bag full of so many possible items, which would have influenced the quantity of food placed on the plate.

Most groups also indicated the need to include water, and most groups were able to state that they had placed food on the plate according to food groups.

Final reflection (30 November 2015)

1. Progression during the course of the intervention sessions

A significant change was observed from the initial sessions to the last, in terms of the learners' attitudes and behaviour. The learners not only demonstrated acquired knowledge within the various content areas, but they were able to apply the guidelines and knowledge they had learned when creating their own plates of food. The learners showed the ability to not only recall the information taught, but rather they began to show a true understanding, application, reflection and transfer of the content taught. The learners showed an ability to provide their own meaning and understanding of the content.

Many of the learners were very shy and appeared insecure at the beginning of the implementation of the Win-LIFE sessions. They appeared nervous to participate in class discussions and group activities. They were very unsure about providing answers, and preferred to keep quiet at the back of the class. When asked to write, many of the learners simply did nothing if they were not urged to do so. It was evident that when the vocabulary and content taught was more difficult and complex or when the learners felt pressure regarding their language abilities with regards to reading and writing, they became discouraged. It was only when they became more familiar with the process, and began to understand that spelling and handwriting was not important that they began to feel more comfortable and interact more freely. The learners therefore began to show a level of confidence and competence that was not necessarily evident at the beginning of the intervention sessions.

The learners began to learn how to work with others in a collaborative manner and therefore work towards shared goals. By the end of the intervention the learners seemed more at ease, and it appeared that they had developed a greater sense of belonging. Furthermore it appeared that the learners felt less tension when answering questions and performing tasks in a group, rather than individually.

The learners were challenged to engage in reflective activities, such as the posters of what they have learned and the creation of plates of food to demonstrate their ability to apply the content learned. We as facilitators made use of probing and reflective questions in order to mediate. We encouraged the learners to apply the content learned to practical scenarios, as well as to teach their families about how to apply and use what they have learned in the sessions. The positive response to the attempts of mediation could be seen with regards to the plates of food that the learners created for specific meal times, the parents' responses to the learners teaching them what they had learned in the sessions, as well as responses given by the learners during the data collection sessions.

As the session progressed the learners' abilities to reflect on their process of learning developed. This was evident in the data collection sessions, the way they taught their families and when we recapped the information taught in the previous session each week. At first, the learners were unfamiliar with the process of reflecting metacognitively in terms of how they learn, what they found easy and difficult, and what they liked and did not like. This improved as time progressed.

The learners' sense of competency developed over the course of the sessions. This was shown through their pride when teaching their families about what they had learned, as this facilitated a sense of responsibility which in turn reinforced such behaviour through the praise or responses they acquired from their families and us as facilitators. Group work also decreased the amount of pressure placed on the learners when completing tasks which also assisted the development of a feeling of competence. The focus was also shifted from spelling, writing and marks which also decreased the pressure felt by the learners which developed their sense of competence. Overall when the learners' sense of competency regarding their own abilities and knowledge increased, the learners became happier, more motivated and developed a learning culture amongst the learners.

2. Learners' experiences of experiential learning

The learners began to be more actively engaged in the learning process. It appeared that they had been exposed to a more traditional approach to teaching whereby the teacher merely instructs the learners, and the learners are passive in nature. Initially the learners had difficulty being active in discussions and group work, however, the ability to, and interest in, working cooperatively in groups increased each week. The learners began to play an active role in class discussions, as their sense of confidence and security increased. They became more willing and open to taking part in class discussions. They made more statements in the sessions and asked more questions, as time progressed.

The learners began to work more collaboratively as a group. As the sessions progressed it was evident that many learners were developing a sense of belonging with those in their groups. The focus was not on them as individuals, which reduced the amount of pressure the learners felt when faced with certain tasks. The learners each were able to contribute to the functioning of the groups in various ways. For a number of the group activities the learners were asked to write their own perceptions or ideas in a separate colour, which allowed them to express their own thoughts, while still being provided the sense of security of working in a group. The learners ultimately appeared proud of their group work and the various products they created.

The PRA-based workshops as well as certain activities during the course of the implementation of the curriculum allowed the learners to begin to demonstrate an ability to reflect on their own learning. They were able to identify what they liked and did not like about the curriculum and the process of learning. They were able to recognise what parts of the process or the content they found difficult, and what they enjoyed. They could identify what they found easy and difficult and what assisted their learning. They were therefore able to reflect on the process, the content and their learning, both individually and in a group. This demonstrated an ability to think in a metacognitive manner, which had developed significantly over the course of the intervention sessions.

The learners also began to demonstrate an ability to work collaboratively when reflecting on their knowledge, which allowed them to construct knowledge through social interaction. As the sessions progressed the learners became more familiar

with the process of gathering ideas as a group and working towards a common goal. Social interaction was fostered, thereby enhancing social relations and social skills.

A significant factor I observed was the learners' perceived value for learning. Many of the learners verbally acknowledged their enjoyment of the learning process, as well as finding interest in the content taught. They indicated a desire to learn more about this subject area in the future. They appeared to develop a sense of responsibility for their personal learning. The learners showed an inquiring attitude, whereby they were eager to learn more, and gain more knowledge. We encouraged the learners to venture and learn, and thus become engaged with the content.

The learners demonstrated an ability to construct their own meaning from the content taught, through the nutrition education posters they created. The learners were asked to show what they had learned regarding nutrition education. The two groups that were allocated this topic chose to expand the content of their poster and include what they had learned from the curriculum as a whole. The learners placed a great deal of emphasis on differentiating between healthy and unhealthy food. The learners acknowledged that it is important to eat healthy food every day, and keep active in order to enhance one's immunity levels. Furthermore the importance of eating foods from all food groups daily was emphasised. They acknowledged that food groups guide what we should eat, and that we should eat a balanced diet, and the learners demonstrated their knowledge by identifying foods that fall within each food group. The learners also highlighted the importance of storing and preparing food correctly. The plates of food for the various meals that the learners created also demonstrated the learners' construction of their own meaning based on the content.

3. Collaboration with parents

The learners appeared to be eager to teach or show others what they had learned and done in the sessions. A sense of pride was fostered, which was reinforced through the positive feedback acquired from the parents. Overall it seemed that the learners shared the information acquired with their families, who according to the learners valued the effort shown by the learners to teach them what they had learned. Most of the parents signed the books. Many of the learners indicated that their parents had been very pleased with what they had taught them. The learners emphasised the joy they received from being able to teach their families what they

had learned. Possible positive response by families to the collaborative nature between school and families of the curriculum was experienced.

Based on the learners' responses, their posters created regarding what they taught their families, and the parents signing of the workbooks it can be inferred that transcendence of content to the broader environment in which the learners existed. The learners demonstrated the understanding that the knowledge and skills acquired could translate into real-life choices outside of the classroom. This was seen in the discussions held in class, content remembered in revision exercises at the beginning of the sessions and the creation of plates of food for specific meals. The learners showed transcendence of knowledge with regards to healthy guidelines, the importance of a balanced diet, eating from all the food groups, healthy versus unhealthy foods and the importance of food preparation and storage.

4. Learning environment

Overall I feel that a positive and productive learning experience was created. The learners seemed to value that time was spent ensuring that their process of learning was supported. We encouraged that the learners did not focus on spelling or hand writing throughout the session, which shifted the attitude amongst the learners, and decreased the tension felt in the class. They became more willing to participate in activities, the more this was emphasised over time, as the attitude that making mistakes is okay was fostered. Questions posed by the learners were welcomed. The use of group work further fostered a sense of support towards their learning. We ensured that we remained sensitive to the quantity and difficulty level of the work as we progressed through the sessions, simplifying the content where necessary and explaining vocabulary when required. We also made use of visual materials to assist learning, colourful pictures and flashcards. We also ensured that we recapped the information taught from the previous session at the beginning of each new session. The learners created plates of food by drawing on a large plate template. This was then laminated for them to take home, to assist them to remember to eat a healthy and balanced diet. We created a keyring with each learner comprising laminated sheets of the core information learned during the course of the sessions, together with the laminated plate the learners had created. This created a sense of pride, while assisting the learners to remember the content taught and enhance the

possibility of transference of knowledge to family and friends. The laminated, colourful keyrings made the learners excited about the sessions, and their learning.

The learning environment formed was one that made use of positive reinforcement for desired behaviour. The learners responded well to this, and it motivated further positive behaviours such as attendance to the sessions and transference of knowledge to their families. The learners were praised regularly for effort shown in the sessions. Every effort was acknowledged. This seemed to foster a sense of determination in the learners and created a positive social system. Constructive feedback was provided to the learners, and positive expectations were held by all involved. We as facilitators strived to make each session a positive and productive learning experience.

All of this support led to an increase in learner motivation, confidence, commitment understanding, encouraged an active role and assisted the development of a learning culture.

One of the aims of the facilitation of the sessions was to ensure that the process of learning was interesting and enjoyable for the learners, thereby motivating them to participate and learn. We made use of games and competitions that encouraged the learners to move about and interact with one another. They were asked to interact with other groups to ask questions in order to complete the task. They seemed to enjoy the competitive nature of the task, as well as the social interaction. We also used various media in order to make the sessions and content more interesting and enjoyable. The learners seemed to enjoy when alternative activities were used to simply reading and writing. We made use of group work, competitions, cutting and pasting activities, creation of creative posters and plates of food. The learners also appeared to enjoy the word search, perhaps due to the fun and informal nature of the activity. The learners also enjoyed reading in unison, which could possibly be attributed to the fact that this format of teaching or interaction is culturally familiar to the learners, it further fosters a sense of belonging and enhances confidence and pride.

We as implementers of the enriched curriculum aimed to ensure that we remained sensitive to differences amongst the learners. All learners in the various groups were treated equally. Each learner was supported when necessary and the teaching

approach used was adapted accordingly. We used various modes with which to convey the content, some of which included visual, audio and kinetic methods. We explained any difficult vocabulary that was included in the learner workbooks, and thus allowed for language differences.

We strived to ensure that the learners felt valued and that we as facilitators believed in their ability to learn. Each learner, their context, culture, any learning difficulties, learning styles and prior knowledge was acknowledged throughout the learning process. The rural context was taken into account when considering food exposure and availability when teaching the content. We specifically asked the learners about their food choices. The enriched curriculum was developed in such a way, so to ensure that the learners' context would be accounted for. It was a collaborative approach between us as facilitators and the learners, whereby we scaffolded the content to be taught, based on what they as learners presented during the sessions. Through the use of multiple facilitators and group work we strived to provide individual support to each learner as needed.

We endeavoured to take into account the learners' prior knowledge regarding the subject area. We asked questions as the beginning of each session, which allowed us as facilitators to gage the learners' existing knowledge base of the content to be covered in that session. We used this as a base line from which to teach the content for that specific session. We also strived to ensure that we revised the previous sessions content at the beginning of each new session. This developed a sense of competence and belonging. It also allowed the learners to tell their own stories and give practical examples of application of the content.

The learners were encouraged to engage in conversations regarding how prior and newly acquired knowledge could be intertwined. The learners were encouraged to create new findings based on this. The specific learning environment fostered interest in the learning process, and provided the learners with a sense of responsibility. We aimed to assist and guide the learners in the learning process, which ultimately led to the learners taking personal responsibility for their learning, and ultimately learning how they best learn. We did not link the content to the other subject areas perhaps as much as we should or could have.

I feel that we took a genuine interest in the learners and their learning, which facilitated the entire learning process, and most of all their motivation and commitment to learning. We praised their efforts and had high expectations for each learner. I feel that we considered each individual learner as unique, and were sensitive to differences amongst the learners. We treated each individual equally despite gender, race, appearance, background, language proficiency and abilities, which I believe the learners acknowledged and appreciated. This enhanced the learners' sense of self-competence.

We emphasised learning through the attitude and environment that we created in the class. I feel that this was further emphasised through the praise and reinforcement provided, as well as the experiential approach to learning, where each mistake is considered a normal step in learning. We encouraged the learners to become more aware of their own thinking through reflective questioning and activities.

5. Group work

The learning environment was social and interactive in nature. Learning was considered to be a social interaction. The learners were placed at the centre of the learning process, whereby they were the agents that facilitated the entire learning process. The learners were very unsure about this approach to learning at first, as it was in contrast to the teaching approach that they were familiar with. As time progressed, the learners' sense of confidence and feelings of security increased, for example with their confidence and ability to answer questions in the sessions and engage in discussions. The learners became more involved as they became more familiar with the process of learning as a group.

The use of group work and social interaction fostered a sense of belonging amongst the learners. This was enhanced through positive reinforcement and praise of their efforts, rather than punishment or negative reinforcement. The learners were encouraged to make contributions in a group setting, and work towards a shared goal, also created a feeling of belonging. The open environment, whereby mistakes made were considered a normal part of learning, and questions were welcomed, further developed the sense of belonging. I feel that the specific group of learners all meeting on certain days, also fostered a sense of being important and belonging. The use of set seating, in their groups created a feeling of familiarity and security.

The beliefs and high expectations held by us as implementers of the intervention, also developed a sense of pride in the learners, which led to fulfilment of such expectations and goals.

The use of group work led to the development of the learners' social skills, motivation, sense of belonging, responsibility and confidence. The learners became familiar with the idea of working towards a common goal, as well as communication and problem solving in a group setting. Through group work the learners played more of an active role, which shifted the focus from teaching to learning. Through so doing, the learners became intrinsically motivated, the learning environment was enhanced and the learners were able to feel that their opinions and input was valued.

Regulation and control of behaviour was encouraged through the use of positive reinforcement. The learners were praised for their ability to work and behave effectively as a group. They were rewarded for positive group behaviour, for example they would be allowed to walk out of the session or get their food first. As the sessions progressed the learners showed an increasing ability to work in a group, which demonstrates an ability to have self-discipline and influence the group as a whole.

There were various disadvantages of using group work. The learners were very unsure of learning and working in a group setting, as this was different from what they have previously experienced in the classroom setting. Many of the learners on reflection complained about heightened noise levels and disrespect from the learners towards the facilitators. The learners therefore indicated feelings of annoyance due to the decline of environment and learning. Other disadvantages of group work identified include varying levels of participation of learners in the groups and the influence of lack of motivation of some group members. It was noted by us as facilitators that some learners would lead in the groups with regards to the discussions and activities; others would merely follow and not give their own input.

6. Goal seeking, setting, achieving and motivation

Our goals as researchers for the sessions involved positive experiences for the learners, learning, application, transference, enrichment of the learning experience and positive reinforcement of desired behaviour or learning.

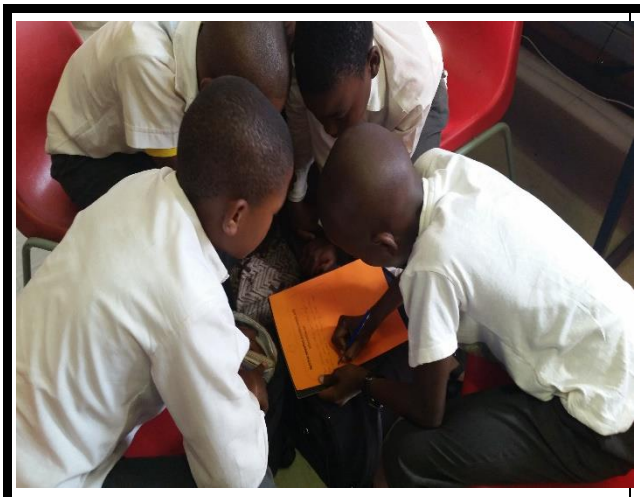
The learners' goals seemed to revolve around receiving certificates, stickers, food, to teach their friends and families, complete their work and therefore learn, try their best and participate. All of the above mentioned goals of the learners were thus realistic in nature.

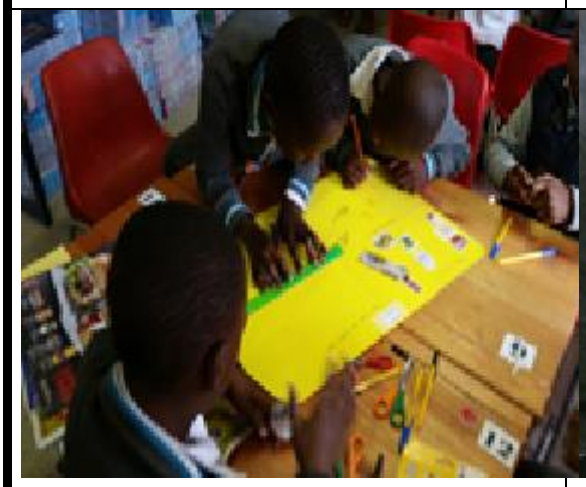
We made use of external motivation through the use of praise, stickers, certificates for attendance and food. Intrinsic motivation was not immediately evident, although it gradually began to develop over the course of the sessions. Intrinsic motivation began to develop within the learners as they began to demonstrate a sense of pride regarding what they had learned or created. A feeling of being responsible and fulfilling an important duty of transferring knowledge to others began to grow. Overtime the learners became aware that learning rather than teaching was being emphasised and that their efforts were valued regardless of the outcome.

7. Additional information gained

In many ways information and findings emerged that we had not planned for or intended. We were able to gain data regarding the process of learning, and how the learners made use of initiative, were able to think reflectively and in a metacognitive manner. We were able to gather information regarding how they adapted to the use of an experiential method of teaching, whereby they had to work collaboratively in groups, where this was not the familiar approach to teaching. We gained information that indicated that the learners began to value learning during the course of the intervention. Learner motivation, sense of competence and feeling of belonging was enhanced throughout the intervention, indicating the possibility for change in the school setting if the correct class milieu is created and fostered.

Appendix J: Visual data

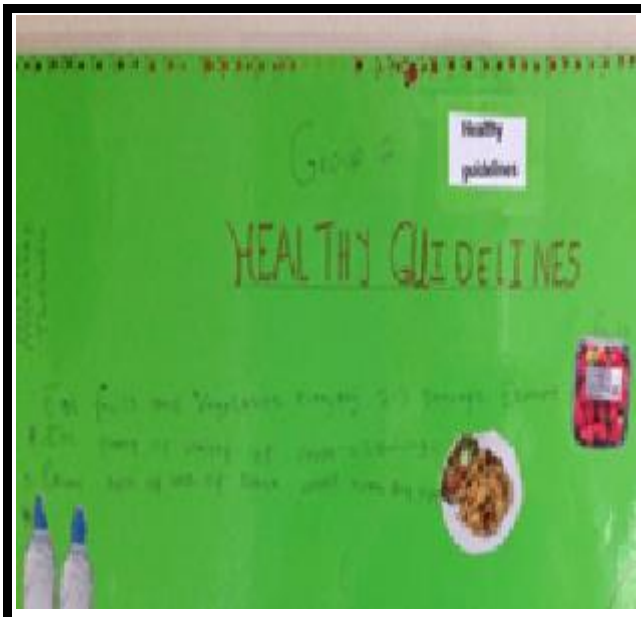
	
Learners working collaboratively in groups. Confidence with regards to their ability to perform the activities increased.	Learners raising their hands to ask for assistance.
	
Learners raising their hands to give input demonstrating active involvement.	Learners participating with enjoyment in class discussions.

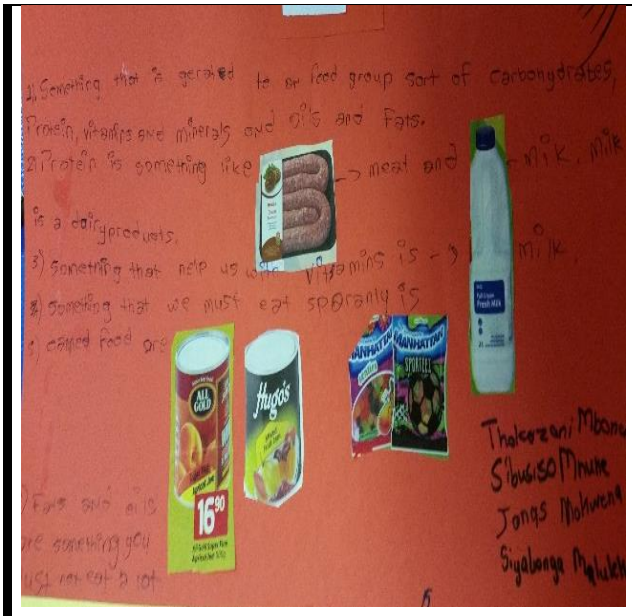
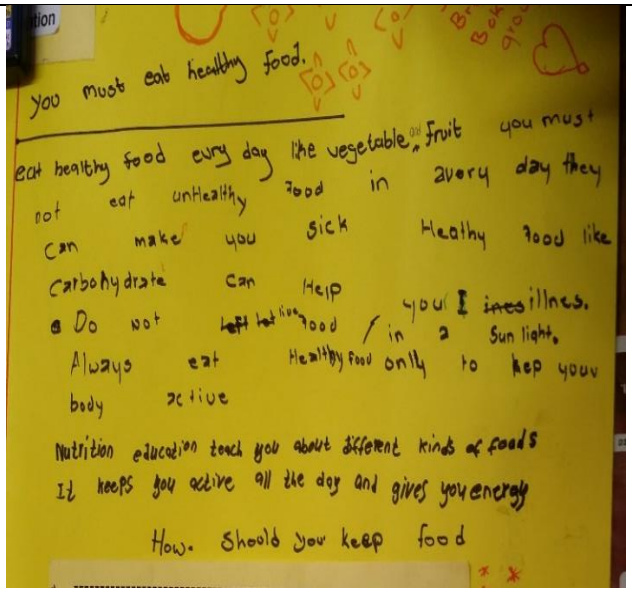
	
Learners taking part in competitions and games that require interaction amongst the various groups.	Enjoying working in groups to find answers.
	
Group members enjoying working together to reach a shared goal.	Cutting and pasting activities. One of the alternative activities used. Working collaboratively in their groups.

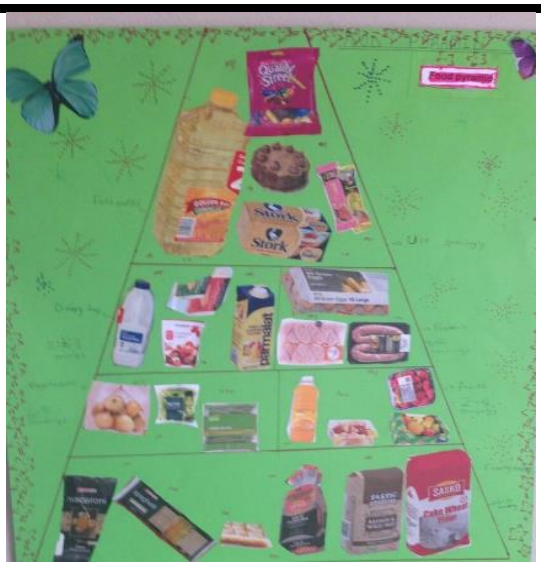
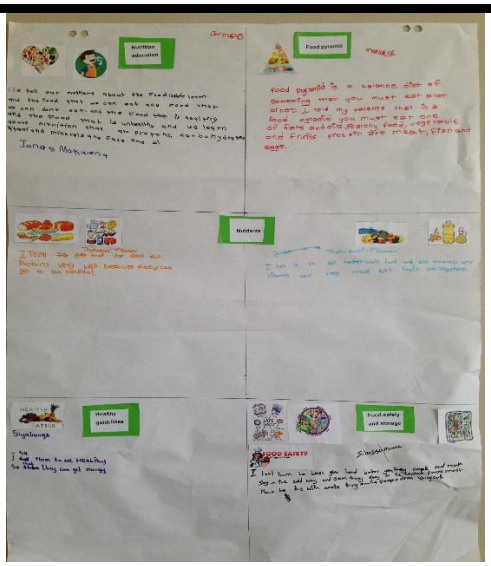
	
Active involvement of group members in learning process.	Collaboration towards shared goals.
	
Learners reflecting on the intervention, whereby each member gives their thoughts and feelings in different colours.	Plates of food drawn by learners and laminated. One of the alternative and creative activities used.

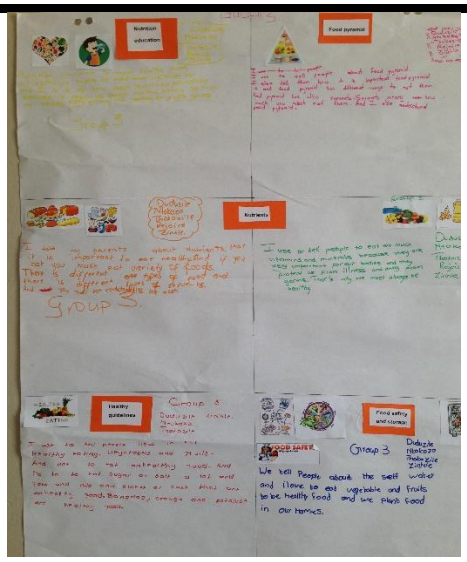
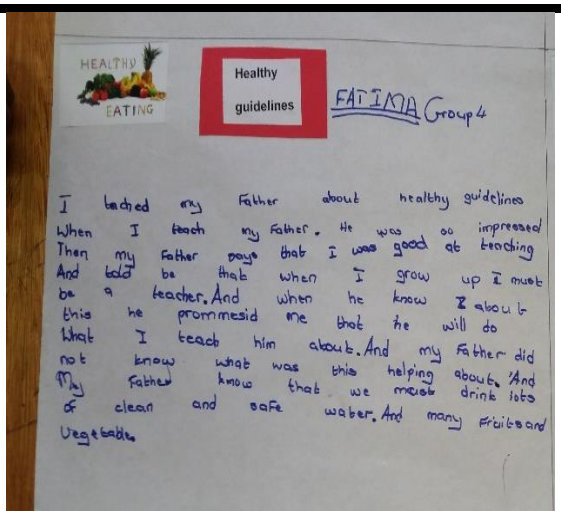
	
Keyrings made by the learners containing the information learned in a simplified format.	Learners working together to form a plate of food for a given meal.
	

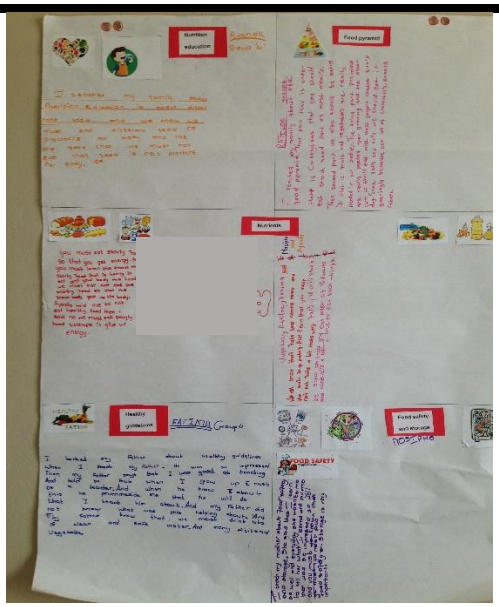
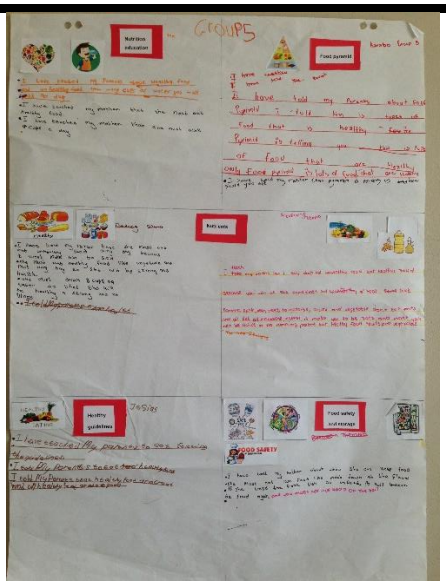
Inclusion of the various food groups and application of guidelines for healthy eating.	Alternative activity used to demonstrate learners potential application and skills following the enriched curriculum.

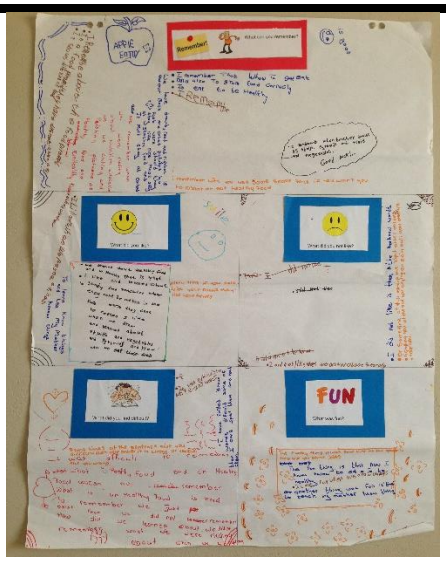
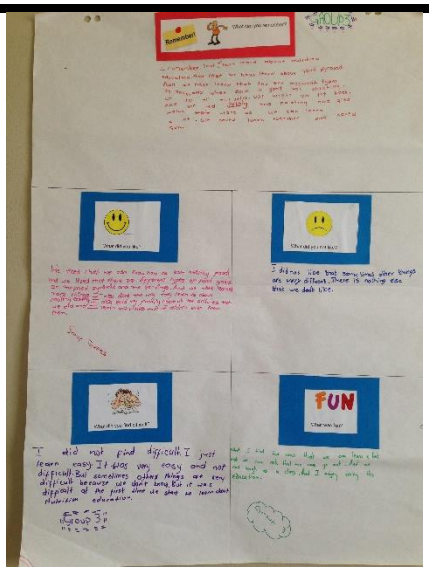
	
Knowledge regarding healthy guidelines demonstrated by the learners	Knowledge regarding food safety and storage demonstrated by the learners

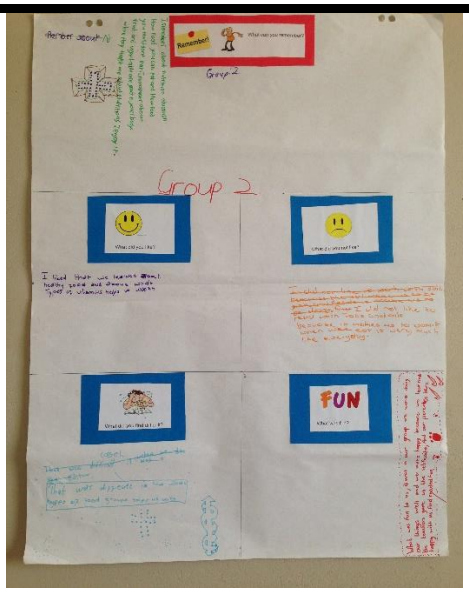
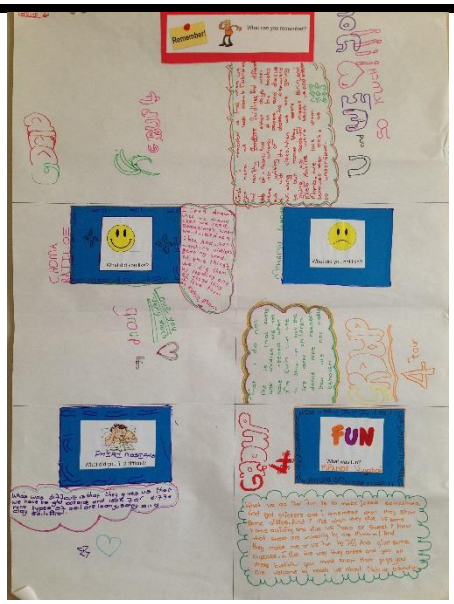
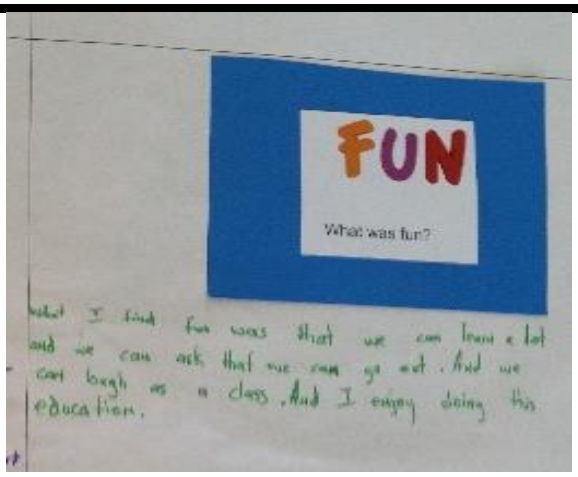
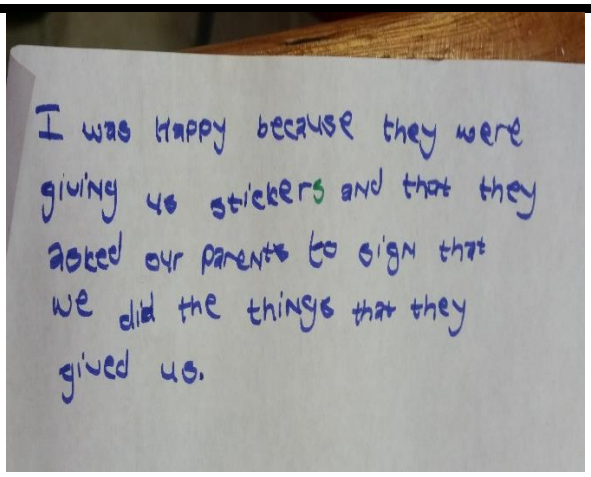
	
Knowledge regarding nutrients demonstrated by the learners	Knowledge regarding nutrition education demonstrated by the learners

	
Knowledge regarding the food pyramid demonstrated by the learners	Reflection on what they had taught their families (analysed in transcription)

	
Reflection on what they had taught their families (analysed in transcription)	Positive response experienced when “teaching” family members what they had learned during the sessions. Thus feeling of pride and enjoyment experienced, thus acting as an incentive.

	
Reflection on what they had taught their families (analysed in transcription)	Reflection on what they had taught their families (analysed in transcription)

	
Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)	Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)

	
Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)	Reflection on what their perceptions and experiences of the intervention (Analysed in transcriptions)
	
Enjoyment of the process of learning.	Positive response to positive reinforcement through the use of stickers. Enjoying sharing information learned with their families.

Appendix K

Coded data

Themes and related subthemes colour code
1. Positive experience of experiential learning
1.1 Element of fun
1.2 Interaction, group work and learning with peers
1.3 Alternative, creative learning activities
2. Role of a supportive facilitator
2.1 Valuing learners' contexts, prior knowledge and contributions
2.2 Listening to learners and providing guidance
2.3 Rewards and incentives
3. Positive outcomes of the learning process
3.1 Increased of knowledge and insight into nutrition education
3.2 Increased self-confidence, self-discipline and pride
3.3 Transferral of nutrition-related knowledge and skills to others
4. Challenges experienced by learners
4.1 Limited participation due to unfamiliar learning approach, difficult content and retention of knowledge
4.2 Challenges associated with group work

PRA-Poster 1 (PRA workshop session 2)

What can you remember? Group 6

In the nutrition education I can remember when we learn about the nutrients. What are they helping us with, carbohydrates, vitamins and minerals, fats and oils. We usually write on our book and read and raise up our hands and our teachers will come and tell us what is wrong. After the afternoon we tell our parents to sign.

What did you like? Group 5

We learned about healthy food and unhealthy, that is what you like and learned about storing foods somewhere they can't be rotten where they don't be rotten. I like when we draw and learned about fruits and vegetables and pyramids and how we eat these foods.

What didn't you like? – group 4

That we didn't like. What I did not like is that some other children that are not have respect when Mrs Karien says we must shut up. But the other children don't have respect that are not having behaviour.

What did you find was difficult? – group 3

I did not find difficult. I just learn easy. It was very easy and not difficult. But sometimes other things are very difficult because we don't know. But it was difficult the first time we learned about nutrition education.

What did you find fun? – group 2

Is when they teach us about the food pyramid, they said we must not eat too much food because our teeth will get rotten. I enjoyed when they said do you like pilchards yes or no. we asked our friends about the kinds of tin stuff. We said we like fish or not. And we learned about healthy foods as well. And about nutrition education. It is nice to be busy learning about being healthy.

Group 2

I like that we learned about healthy food and what types of vitamins help us with

PRA-Poster 1 (PRA workshop session 2)

What did you teach your families about the food pyramid?

The pyramid is telling you these are the types of food that are healthy. Healthy only Food pyramid is lots of food that is healthy.

I teach my family how they must prepare food that is healthy but it does not mean they must eat junk. They can just eat junk food on a special day.

Did they know this before?

Yes and no

Are they happy you taught them something?

Yes

What did you teach your families about nutrients? – group 5

I teach my parents I said don't eat unhealthy, eat healthy because you will be sick sometimes. Eat healthy foods like banana, apple, pears, grapes, fruits and vegetables. Don't eat fats and oils like oil, margarine. It makes you to be fat. Eat healthy fruits and vegetables.

What did you teach your families- group 3

I teach my families about food pyramid and I also tell them about how important food pyramid is. And food pyramid has different ways to eat them. Food pyramid also has servings to eat them. Serving means how much you must eat them. And I also understand food pyramid

Eat healthy food, vitamins and minerals and eat fruit every day. I teach my mother about the food that we learn, the food we can eat, the food we cannot eat.

Group 6

I told my parents that it is a balanced diet of what you can eat or not. I told my parents that in a food pyramid you must eat one of starchy food, vegetables, protein, and protein are meat, fish and eggs

Group 5

I told them to eat healthy so they can get energy

Group 6

I tell them that it can eat proteins every day, because they can go to the hospital

I tell them that they must wash hands before they cook and bake. People must never eat unhealthy things like coke

Group 4

Food pyramid as it is it is small, bigger, bigger and big. We should be eating more of carbohydrates as it has rice, spaghetti and everything. In the second block we should be eating fruits and vegetables. We should be eating milk, yoghurt, cheese everyday because they are important. Proteins are needed to. Fats and oils should be eaten sparingly,

Did you teach your families about this?

Yes

Did they know about this before?

No. they know after we teach them

PRA-Poster 2 (PRA workshop session 1)

Group 1 – Nutrition education

Nutrition education is preparing of food that we must eat like healthy food groups like carbohydrates, we must eat lots of them bit not them only, we must eat all different. And it tells us what we must eat sparingly, and what we must eat most. Like fats and oils we must eat them sparingly.

We must eat this different types of food like

> carbohydrates (rice, flour, maize meal), this type of food gives us energy so we must a lot of them,

proteins (eggs, fish fingers, chicken, lamb), this type of food gives us to be healthy

fats and oils (stork, oil), this type of food we must eat it but we must eat it sparingly

and dairy (yoghurt and milk), this type of food we must have it everyday

This is a type of food that we must eat it very nice like fats and oils we must eat it but not every day because it makes us sick when we eat it every day. But dairy we must eat it a lot, but we must eat carbohydrates

Group 2 – healthy guidelines

Eat fruits and vegetables every day. 2-3 servings. Example (strawberries) fruits and (mielies) vegetables

Eat plenty of variety of foods. 2-3 servings

Drink lots of lots off clean water every day e.g. 8 glasses

Eat starchy foods every day. 6-7 servings (rice, bread)

Eat many types of lentils every day (peas)

Eat protein everyday (sausage, chicken)

Eat fats and oils sparingly (stork)

Eat dairy foods every time (yoghurt, milk)

Be active

Group 3 – food pyramid

Bottom – carbohydrates, 6-12 servings, (rice, spaghetti, bread, rolls, macaroni, flour)

2nd – vegetables, 3-5 servings (onions, lettuce, beans)

-fruits, 2-4 servings (orange juice, strawberries, pineapple, apples)

3rd – dairy food, 2-3 servings (milk, yoghurt, custard, cheese)

- Proteins, 3-2 servings (sausage, eggs, chicken)

Top – fats and oils, use sparingly (oil, stork, cake, chocolates, jungle oats bars)

Group 4 – food safety and storage

Keep food away from chemicals (laundry detergents)

Do not leave your food near the sun (sausage and sun)

You must make sure you drink clean safe water

You must look at the expiry date (canned food)

Keep chicken, egg and fruit in the fridge so that they don't go rotten

You must keep starchy foods in the cupboard away from insects or small bugs (flour)

You must keep fresh milk in the fridge

You must put the corn flakes in a tight container

Unripe food must be kept in room temperature (avos)

Group 5 – nutrition education

Healthy food

Strawberries, fresh milk, vegetables (peas, corn, etc.). brown bread, avos, lettuce, eggs, fruits (apples, pears, etc.), yoghurt, maize meal (mielies)

Unhealthy food

Biscuit, nik naks, cake, sweets, chocolate, coke, burger

You must eat healthy food; eat healthy food every day like vegetable and fruit. You must not eat unhealthy food in every day they can make you sick. Healthy food like carbohydrates can help your illness. Do not leave food in the sun. Always eat healthy food only to keep you body active.

Nutrition education teach you about different kinds of foods. It keeps you active all day and gives you energy. How should you keep food.

Group 6 – nutrients

Something that is gerated to an food group sort of carbohydrates, protein, vitamins and minerals and oils and fats.

Protein is something like meat and milk. Milk is a dairy product.

Something that help us with vitamins is milk.

Something we must eat sparingly is sweets.

Canned foods are apricot jam and mixed fruit jam.

Fats and oils are something you must not eat a lot

Starchy foods help us with energy and types of starchy foods are rice and porridge.

Plates (PRA workshop 2) – audio transcription

Breakfast – group - 3

Meat, cheese, water, danon, orange, milk, cornflakes

Why did you put these things on?

Because it carbohydrates, proteins, vitamins and minerals and dairy. It will give us energy

Breakfast – group 4

Milk, apples, avocado, carrots spinach, teabags, cheese and eggs, bread

Why did you put these things on here?

Why did you put the bread on? What is it good for?

Growth

What food group is it?

Starchy foods

Okay so you have starchy, what else do you have?

Fats and oils, proteins, vegetables, fruits

Lunch – group 6

What's on your plate?

Orange, avocado, milo, chocolate, egg, palony, yoghurt, bread, juice, milk, water and some chocolate

Why did you put these things on here?

Why did you put the egg on?

Because its snacks

What food groups did you put ion here? What else can you see?

Fruits, starchy foods, egg

Egg what type of food group is that?

Protein

Yes good. I can see starch, fruit and protein what else?

Vegetables and dairy and water

Supper – group - 5

What is in yours?

In supper we put vegetables, proteins, starchy foods and fats and oils

Why did you put these things on?

We put them on because they are healthy

Can you see all the food groups?

Yes

What have you got?

Rice, carrots, spinach, lettuce, lucky star, water and this for desert (chocolate).

Why did you put these things on here?

So you don't get hungry in the middle of the night

Good so you have starchy foods for that. And what else? Which food groups do you have here?

We have proteins, rice, spinach too be healthy and lettuce

Lunch – group 1

Simba chips, danon, Melrose, bread, jam and lettuce and orange and tropica and water

Why did you put those things on the plate?

Because brown bread is healthy and lettuce is very healthy and danon juice has vitamins.

Which things from the food pyramid can you see here?

Dairy, starch, vegetables

Which food group is not on here?

Fats and oils no it's got jam. Proteins

Transcription of audio recordings – Member checking

What did you do that was fun? What can you remember

When we were cutting and pasting (participant - 10)

Word search (Participant – 11)

Learning about healthy food and unhealthy food (participant – 9)

The stickers you gave us (participant – 10)

What did you like about working in groups?

We can help each other when someone is wrong (Participant – 7)

Telling each other what to do (participant – 5)

Working with friends (participant – 4)

What activities did you like?

Making healthy breakfast, lunch and supper (participant – 7)

What did you not know before?

How much water you must drink each day (participant – 3)

Not eat one thing again and again (Participant – 4)

Healthy guidelines (participant – 12)

did you teach your families

did they like it?

Did you enjoy teaching them?

How many of you have started using the healthy guidelines?

Majority of learners raised their hands (participant – 23)

Which healthy guidelines do you find difficult?

Also the water (participant - 17)

Forgot not to eat too much chocolate (participant – 14)

Do you agree, do you feel you became more confidant?

Yes (participant 21)

How did that feel?

Happy (participant – 2)

Excited (participant – 2)

What was it like acting like the teacher?

It was nice and enjoyable (participant – 16)

Did you feel like you were treated like you were special?

Yes (a group of learners)

W*hat made you feel like that?*

Everyone got a chance to give answers (participant - 15)

Did you feel respected and valued?

Yes (whole group)

Did you feel like we listened to you when you spoke?

Yes (whole group)

Did you think that we helped you when the work was difficult?

Yes (whole group)

How did we help you?

You explained the work to us (participant – 6)

You helped us to understand (participant – 7)

You corrected us (participant – 7)

Was that a good thing?

Yes (whole group)

Did you like the certificates, the stickers and the food?

Yes (participant - 10, 11, 14)

Why did you like it? What about it did you like

Encouraging us to come more (participant – 11)

How did it make you feel?

It made us feel special (participant - 11)

Is there anything else that you liked that isn't on here? Remember we are here to learn from you. We want to know what we must include next time.

That's all (whole group)

Did you find that the work was a bit difficult? The workbook?

Yes (a number of learners)

No (a number of learners)

What words in the book did you find difficult? Were there words that were big?

No (most of group)

Should we make the workbooks easier or keep them the same?

Keep them the same (few learners)

Who found it noisy when we worked in group?

Yes

It was okay

Was it sometimes difficult to remember the information?

Yes (whole group)

Is there anything not on the poster that you didn't like that we can make better?

You leave too early (participant – 19)

So we must make the sessions a little bit longer?

Yes (whole group)

Nothing else you can think of?

Yes (whole group)

Is there anything you can tell us about your time with us that wasn't on the posters?

No (whole group)

What are you writing about?

I liked that we learned new things (participant – 10)

I learned things that I did not know (participant – 10)

You explained things to us (participant – 21)

Did you find that it got a bit noisy or some of the members didn't help?

Some boys made noise and didn't respect each other (participant– 12)

I found it a bit noisy (participant – 14)

What are you writing about?

I liked the cutting and pasting because it helped me to learn (participant – 1)

We liked discussing things with our friends because then we can help each other (participant – 1)

I liked that you were patient with us (participant 27)

You helped us to understand (participant - 22)

What I didn't like is when they made noise because then we couldn't understand (participant – 1)

Did you think sometimes that not everyone helped?

Yes (participant - 3)

Did we take into account your background?

Yes (participant – 15)

You treated us the same and helped us (participant – 15)

What are you writing about?

I like that you give us a chance to give answers and you helped us when we don't understand. You helped us to understand better (participant – 20)

Do you think we looked at each of you and what you like, don't like, etc or did we treat you all the same?

You treated us well (participant - 11)

Do you think that sometimes not all the group members helped?

No everyone gave answers (participant - 5)

What are you writing about?

I liked that you gave everyone a chance to say their own answers, you helped us when we gave incorrect answers (participant - 16)

Do you feel that we made sure you each gave you your own chance to give your own answer?

We feel like you gave everyone a chance to say his or her answers (participant - 19)

Do you feel like you grew? Like at the beginning it was a bit scary and then you became more confidant, or not?

Yes at the beginning it was a bit scary and we were nervous because we didn't know you. (participant – 7)

What felt scary?

Sometimes it is scary because you not sure of the answer you are telling is true or ot true (participant – 7)

What are you writing about?

I did not like it because the other groups kept making noise and did not listen to the teachers. It was difficult to understand. (participant - 9)

I found that the words were difficult. (participant - 17)

Do you think you got more confidant and grew?

Yes (participant 7)

What are you writing about?

I like to learn something about what you teach us.(participant - 7)

We didn't like that some children laugh at others (participant – 15)

Did you find that sometimes not all the group members helped?

Yes (whole group)

Is there anything else?

No (whole group)

What are you writing about?

I liked learning. The servings was new information. (participant – 14)

Were the workbooks too hard?

No (most of class)

What do you think about having to work in groups?

It was nice working in groups and helping each other. (participant – 10)

You helped us when we found something difficult (participant - 4)

What did you find difficult?

I found difficult when we were talking about vitamins and what they help us with (participant 12)