PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN AT AN EARLY CHILDHOOD CARE AND EDUCATION CENTRE IN THE MKHONDO CIRCUIT

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A dissertation submitted for the degree

Master of Education in early childhood Education

In the

FACULTY OF EDUCATION

At the

University of Mpumalanga

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Submission date: May 2023

DECLARATION

I, Zanele Maureen Dlamini, Student Number 220571813, declare that:

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ACKNOWLEDGEMENTS

I would like to express my most tremendous appreciation towards the following:

- Glory to God almighty, who gave me endurance and wisdom for the duration of doing this work;
- My mother has been with me in prayer and great psychological support and always reminds me that there's hope through courage and perseverance;
- My children, especially my first-born daughter Samkelisiwe, who made time to assist me when necessary despite having her own academic work;
- My supervisor, Prof, Mahlomaholo and co-supervisor, Prof Sommers, for their undying support, resilience and patience with my work;
- My colleagues, thank you for being good friends, sisters, and colleagues and for the continuous support and word of encouragement to continue this journey with courage and wisdom;
- My colleagues from the Department of Education for their continued support and academic guidance where needed;
- Mainly my supervisor, Prof. Mahlomaholo, for his undying support, encouragement, and believing in me even when I was filled with self-doubt;
- The Department of Basic Education and the school principal for permission to conduct research;
- The practitioners, community farmers and learners who formed part of the research; and
- The parents of the learner participants for allowing their children to participate in the study.

DEDICATION

I dedicate this dissertation to my mother, siblings and father, my two handsome boys and two beautiful girls, Thandolwenkosi, Kuhle, Samkelisiwe, Sphokazi and my supportive husband, Bongumusa. I hope this work will encourage my two youngest children, Sphokazi and Kuhle, giving them an insight into the beauty of education and that you can go beyond the sky through education.

ABSTRACT

This study aimed to design a strategy to promote healthy nutritional practices using a school food garden at an early childhood care and education centre in Mkhondo Circuit. The literature confirmed that school food gardens enhance proper eating habits, and the school, with the community, has a significant role to play in promoting healthy nutritional practices through a school food garden. The theoretical framework that informed the study is critical emancipatory research. The conceptual framework is the transtheoretical model (TTM), which encourages inclusivity in life-changing scenarios.

The participatory action research approach was used in the study for co-researchers, and the researcher collaborates to understand a problematic situation better. The study was done in an ECCE in Mkhondo, an extremely rural place. Two practitioners were selected, and 20 learners, 20 parents and two community farmers were selected for detailed study at the ECCE. The study used critical discourse analysis for data generation. The study revealed that improper eating habits are a national and international problem: working with the community can change our eating habits.

CDA encourages the use of language and power acceptable to all involved, even on different levels in the community. The co-researchers noted that improper eating habits negatively affect learners, teachers and the community. Finally, the co-researchers agreed that the school food garden should be utilised to address the issue of eating minimal foods with fruits and vegetables.

Keywords: Promoting healthy nutritional practices, school food garden, early childhood care and education centre (ECCE), coordinated teams, participatory research, and critical discourse analysis

LIST OF ACRONYMS AND ABBREVIATIONS

AR	Action Research
CBPR	Community-Based Participatory Research
CDA	Critical Discourse Analysis
CER	Critical Emancipatory Research
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Department of Basic Education
DEFRA	Department of Fisheries and Agriculture
ECCE	Early Childhood Care and Education Centre
ECD	Early Development Centre
FAO	Food and Agriculture Organization
PAR	Participatory Action Research
SA	South Africa
SFG	School Food Garden
SGB	School Governing Body
SWOT	Strengths, Weaknesses, Opportunities and Threats
TTM	Transtheoretical model
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization

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CHAPTER 1 :
OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This study aimed to design a strategy to promote healthy nutritional practices using a school food garden at an early childhood care and education centre in the Mkhondo Circuit. This section provides an overview of the project and some background information to contextualise the problem statement. It also provides concise definitions of key terms, challenges that result from improper eating habits, solutions designed around the use of SFG to enhance proper eating habits, conditions conducive to addressing the challenges, factors that hamper the implementation of solutions and the evidence that the SFG does improve adequate eating habits. It also presents the problem statement, research questions, the aim of the study, the objectives of the study, the theoretical framework, conceptual framework, summary of the literature review as well as the research design and methodology, the research site and data analysis: CDA, ethical consideration and layout of chapters.

1.2 BACKGROUND

The school food garden (SFG) is a tool for fostering a culture of food gardening and disseminating information about food production (Laurie, Faber & Maduna, 2017:3). Laurie et al. (2017:6) view SFG as fruit and vegetables planted in the schoolyard. The Food Agriculture Organization (FAO, 2020:65) argues that any garden where learners learn how to take care of vegetables and fruits while also studying the life history of plants is called a ‘school food garden’. Teaching learners gardening techniques to improve home output for household food and nutrition security is what the school food garden implies (Laurie et al., 2013:681). One of the finest ways to add to the meals that learners eat is through school food gardens. On the other hand, promoting healthy nutritional practices entails making health-related judgements and establishing health-promoting behaviours daily (Lange, Calancie, Onufrak, Reddy, Palmer & Warnock,

2021:683). The study used the school food garden to enhance ECCE's healthy nutritional practices.

The research conducted by Lamb (2022:3) throws light on South African food practices, revealing that we are the world's unhealthiest country. Poor diet is primarily to blame for this. Lamb (2022:4) knows how critical it is to help South Africans improve their diets with minimally processed foods such as vegetables and fruits. The research findings demonstrated that 84% of South African children eat meat almost every day, with little/no vegetables and fruits, which is unlikely to change in future without intervention; accessibility to vegetables is more accessible, but affordability is a barrier (Klemmer, Waliczek & Zajicek, 2017:16).

The literature indicates that challenges are significant to promoting healthy nutritional practices like social pressure. Chung, Viera, Donly, Tan, Jean-Lous, Gouley and Seixas (2021:15), and Ragelienė and Grønhøj (2020:65) assert that peers, online social circles and children's eating behaviours are influenced by their siblings. The other factors that hamper the effective promotion of healthy nutritional practices are stress, lack of knowledge about healthy foods, lack of gardening skills and knowledge of organic foods.

The challenges that result from improper eating habits get exacerbated in the absence of a school food garden from which nutritious food can be sourced (Araya, Araya, Amoo, Mofokeg, Makgato, Laurie & Du Plooy, 2020:23-24). Often children tend to eat snacks and junk food because there are no tasty, nutritious alternatives at school (WHO, 2022). Parents pack processed foods in children's lunchboxes (Steyn, Nel, Malczyk, Drummond & Senekal, 2020:1717). There is a level of ignorance of what constitutes proper eating habits if the school food garden is not there (WHO, 2021). In the United Kingdom, South Africa and Kenya, children develop bad eating habits by seeing what their friends buy and eat at school (Barnes, Lin Yoong, Nathan, Wolfeden, Wedesweiler, Kerr, Ward & Grady 2021:108). The children bring money to the school to buy pre-packaged food (Maseko, Mabhaudi, Tesfay, Fezzehazion & Du Plooy., 2018:90). Mkhize and Sibanda (2020:16) mention that if no one reinforces proper eating habits, they lack interest.

The solutions designed around the school's food garden to enhance proper nutritional practices are that the children should develop healthy nutritional habits (Zecevik, 2021:8). Children develop a positive relationship with nature when they start to play around in the soil; they become curious to taste the fruit and vegetables they grow with the assistance of adults (Taylor, Wright & O'Flynn, 2021:409). Barnes, Hanson, Novilla, Magnusson, Crandall and Bradford (2020:90) mention engaging with parents to enhance the provision of healthier foods. The Global nutrition target 2025 states that there is a need to increase the number of fruits and vegetables on the menu (WHO, 2020a). Skelton, Lowe, Zaltz and Benjamin-Neelon (2020:14-22) state that vegetables and fruit work as a therapy for disorders and diseases. Educating children about the benefits of eating vegetables grown in one's garden can increase their knowledge and love for them (Zecevik 2021: 13). Children's readiness to try vegetables and attitudes toward vegetable eating has improved as a result of the Royal Horticultural Society's campaign for school gardening in London (Chaudhary, Sudzina & Mikkelsen, 2021: 78). An urban wasteland in Pretoria has been converted into a thriving vegetable garden by Banareng Primary School (FAO, 2022a:23).

In South Africa, at most schools where all stakeholders work collectively, they enhance proper nutritional habits using the school's food garden. People must buy-in by developing an affinity for vegetables and fruit (Skelton et al, 2020: 14-22). Children must be taught to cultivate, appreciate and enjoy fruits and vegetables (Schreinemachers, Grovermann, Praneetvatakul, heng, Nguyen, Buntong, Le & Pinn, 2020:60). When children have easy access to fruit and vegetables at school, parents will also eat the fruit and vegetables, making it likely for the children to increase their fruit and vegetable intake (Downs, Demmler & Kathrim, 2020:89). In the United Kingdom, South Africa and Kenya, support from stakeholders causes all children to participate in and connect with local fruit and vegetables (Gonsalves, Hunter & Lauridsen, 2020:120). The study is necessary because favourable conditions promote the use of the school garden to intensify proper eating habits.

Factors that hamper the implementation of solutions that use school food gardens can be that the teachers cannot recognize the connection between a good diet and proper

eating habits. The various false social convictions about food values influencing daily activities can be overcome through school food garden production (Shafer, 2018:23). Poor practices, mistaken attitudes and skills gaps are problematic. The attested negative attitudes are that a school garden is a punishment, someone steels the profit from the garden, and gardening is dirty (Skelton et al., 2020:40). The access to information, expertise, technical support, and support from school management can be a challenge (Yao, Li & Widly, 2021:30). Fruit and vegetables planted also need to be suitable for a particular area (Gonsalves et al., 2020:115-125).

The evidence that the school food garden does enhance proper eating habits is that fruit and vegetables bring ready-to-eat food and no effort to buy (Maseko, Ncube, Mabhaudhi, Tesfay, Chimonyo, Araya, Fessehazion & Du Plooy, 2019:23). Moreover, fruit and vegetables are easy to cook and eat (Araya et al., 2020:19). The intake of fruit and vegetables improves proper eating habits when produce is readily available (Luo & Gao, 2020:99-400). Exposure to and active participation in a school food garden can thus increase preferences and result in the children choosing healthier vegetables and fruit than fast foods (Johnson & MacLean, 2020:377-383). Children can learn how to produce healthy food in the school food garden, and by doing so, they become more aware of their responsibilities to ensure that a healthy lunch is delivered daily (Araya et al., 2020:26).

1.3 RATIONALE FOR THE STUDY

Since South Africa is considered one of the unhealthiest countries in the world and consumes minimally processed foods such as fruits and vegetables, conducting a study on promoting healthy nutritional practices through a school food garden was of great importance. The study will play an active role for individuals, as it addresses health concerns and promote healthy lifestyle choices for the learners, teachers and the community. To date, few studies have investigated promoting healthy nutritional practices through a school food garden. Through this study, nutrition and proper eating habits knowledge will increase.

1.4 PROBLEM STATEMENT

Given the afore-mentioned context, it is clear that improper eating habit due to the absence of a school food garden is still a challenge in many countries (Abdul Basir, Abdul Manaf, Mohd. Noor, Mat Ludin, Shahar and Abdul Manaf, 2022:90). We still need to find more conducive conditions that help the use of the school food garden to intensify proper eating habits. Further, the study identified threats that might prevent a school food garden from being used and finally found evidence that we must attempt proper eating habits through a school food garden. More research still needs to be done on this subject; moreover, this study designed a strategy to promote healthy nutrition practices using a school food garden at an ECCE by responding to the following research questions.

1.5 RESEARCH QUESTIONS

The main research question is:

How can a school food garden in an early childhood care and education centre be used to encourage good dietary habits?

The sub-research questions emanating from this study are:

- What impact does the absence of a school food garden have on the nutrition of learners?
- Which conditions impede the successful use of the school food garden to respond to the promotion of nutritious eating habits?
- What dangers might a school food garden pose to good nutritional practices?
- What is the evidence of successfully promoting proper eating habits that do not or do use a school food garden?

1.6 RESEARCH AIM AND OBJECTIVES

1.6.1 Research aim

The study aimed to design a strategy to promote healthy nutritional practices using a school food garden at an Early Childhood Care and Education Centre in the Mkhondo Circuit.

1.6.2 Research objectives

The study's objectives were to:

- Examine the challenges resulting from improper eating habits when the school food garden is not there.
- Explore the strategies to promote healthy nutritional practices through the school food garden at an ECCE.
- Draw attention to the element that makes up a plan for using a school food garden to promote healthy nutritional practices.
- Anticipate possible threats when using the school food garden to promote healthy nutritional practices.
- Understand and investigate indicators of success that a school food garden does enhance proper eating habits.

1.7 THEORETICAL FRAMEWORK

The study used critical emancipatory research as a theoretical foundation for formulating a strategy. An essential offshoot of theory linked with the Frankfurt School in Germany in the late 1920s is Critical Emancipatory Research (Dube & Ndaba, 2021:54). Nkoane (2013:395) mentions that the intellectual underpinnings of critical theory can be found in several traditions, such as Karl Max's study of socioeconomic conditions and class dynamics. According to Dube and Ndaba (2021:54), CER pushes for teamwork, equality and equity in all forms and alters people's hearts and minds to create the

conditions required to promote healthy nutrition through a school food garden. Critical Emancipatory Research (CER) values and recognises the participants; therefore, the researcher ought to treat them with respect as fellow beings (Mahlomaholo, 2009:225). According to Anderson (2018:786), CER fosters the participation of all parties in society. Critical emancipatory research was established to encourage engagement from different societal sectors (Field, 2018:98).

This section validates the choice of CER as an appropriate theoretical position in promoting healthy nutritional practices through a school food garden. CER anticipates working collectively and harmoniously ad calla for dialogue to achieve one goal: promoting healthy nutritional practices.

1.8 CONCEPTUAL FRAMEWORK

A conceptual framework establishes a connection between the literature and the research objectives and questions. It thus guides the discussion of the literature, the methodology and data analysis, contributing to the trustworthiness of the study (Adom & Hussein, 2018:87)

Prochaska, Redding and Evers (2002:99-120) say a transtheoretical model (TTM) for change posits that individuals move through specific stages when they attempt to change unhelpful behavioural patterns. The transtheoretical model of behaviour change states that the most crucial constructs, such as stages of change, decisional balance, self-efficacy, and change processes, advance an individual's readiness to change from bad to positive behaviours (Prochaska et al., 2002:105). The transtheoretical approach offers a framework for conceptualizing and measuring behaviour change and supporting customized and flexible promotion techniques (Nigg, Geller, Motl, Horwath, Wertin & Dishman, 2022:5). A model encourages people to adopt healthy behaviours. It includes a variety of mechanisms suitable for those who aren't ready to change, those who are already doing them regularly, and those who are regressing or relapsing. The effectiveness of TTM was proven in numerous studies and has yielded positive results (Kyle, Neall & Atherton, 2016:126-130).

1.9 A SUMMARY OF THE REVIEW OF THE LITERATURE

This section analyses literature promoting healthy nutritional practices through a school food garden in an ECCE at Mkhondo Circuit. The literature review focuses mainly on best practices in the United Kingdom, South Africa and Kenya. The chapter will use some information when analysing and interpreting data.

1.9.1 Justification for the demand that a school food garden be used as part of a strategy to promote healthy eating

According to the DBE (2016:67), unfortunately, a large portion of the world's food crises is localized in South Africa. Despite the claimed success of the school food garden, little is known. Little research has been done on promoting healthy nutritional practices from as early as early childhood care and education centres globally (Manie, 2021:10). In a few studies focusing on school food garden projects; educators reported that learners' academic results improve. Their eating habits change for good because they even practice good eating habits at home (Manie, 2021:14). Despite their cooperative efforts, the learners' unique contribution to the school food garden has been recognized as an excellent practice for increasing nutritional variety among learners. In South African schools with few resources, studies have proven that a school food garden is essential because a few schools have managed to meet the required standard for a school environment that is conducive to healthy eating habits (Araya et al., 2020:4). A study by Sobko, Liang, Cheng and Tun (2020) supports the idea of having a school food garden because connecting to nature contributes to better eating habits.

1.9.2 Determining the challenges of the strategy to promote healthy nutrition practices using a school food garden

The research identifies challenges concerning learners eating habits. Parents packing processed foods in their children's lunchboxes is one of the significant problems identified by the World Health Organisation (WHO). In Napier and Hlambelo (2014:16),

a packed snack or meal taken from home to school to be consumed during school hours is referred to as a lunchbox. According to the WHO (2021:78), parents must learn to put healthy items in their children's lunchboxes. Skelton et al. (2020:24) say that parents need training on what to pack for their children, and Midigo (2019:19) attests that parents pack food for their children that is noted to fall short of recommended dietary standards and little research has been done with parents concerning the content of lunchboxes for their children. The choices that go into deciding what goes in a school lunchbox are complicated and point to a need for support (Maundu, 2022:4). In the study by Maundu (2022), it is mentioned that research has shown that vending machines and school canteens are the worst contributors to children not eating proper nutritional foods, because a majority of them sell snacks, junk foods, fizzy drinks, etc.

1.9.3 The solutions of the strategy to promote healthy nutrition practices using a school garden

The studies conducted globally on using a school food garden to promote healthy nutrition practices show that there is convincing evidence that school food gardens encourage participating children to consume more fruits and vegetables and to try new ones (FAO, 2020:56). Nutrition programmes have proven to be both effective and efficient with the promotion of fruit and vegetable consumption (Whatnall, Patterson & Hutchesson, 2020:120). Chan, Gong and Tan (2022:24-25) explore that growing fruits and vegetables not only makes it easier to bring them to school and home but also teaches children to respect and enjoy the products from the garden, which makes them more likely to try them and to eat them. Instead of relying on outside gardening experts, educators need to modify learners' attitudes about eating fruits and vegetables. The WHO (2020b:86) indicates that a school food garden affects children's diets favourably and increases their consumption of fruit and vegetables. Educators need to have gardening skills to help children lead better lives and foster an environment where healthy eating is the norm.

1.9.4 Favourable circumstances for the strategy's successful implementation

Working together between educators and learners is one of the requirements for the strategy's adoption to be successful (DBE, 2016:78; Collective School Garden Network, 2015a; 2015b). When several people are actively involved in the intervention of using school food gardens to curb improper eating habits, more fruit and vegetables are consumed. Johnson and Johnson (2015:1) attest that working together secures what others cannot accomplish independently.

1.9.5 The threats that might prevent the strategy's execution

Issues that can prevent the utilization of solutions like school food gardens from being implemented may include teachers not recognising the connection between good diet, proper eating habits and of social convictions about food values (Shafer, 2018:23). There is a notion that gardening is unclean and that someone is making money off the product, which leads to negative views toward the educators and learners (Skelton et al., 2020:40). School food garden critics argue that a school food garden is a punishment and a lot of skills gaps need attention from experts (Shafer, 2018:24). To reduce the resistance of educators and learners' access to information, technical support and support from management are much needed which will allow both parties to enjoy their involvement in the school food garden. Mahlomaholo (2013a:4615) suggests a campaign to persuade stakeholders to support it, which could, in turn, impact how resources are prioritized for the school food garden. Fenesh et al. (2020:15) state that highly skilled and motivated ECCE staff are needed to ensure every child succeeds in whatever they do.

1.9.6 Demonstrating evidence that school food garden does enhance proper eating habits

The evidence that a school food garden does enhance proper eating habits is that fruit and vegetables bring ready-to-eat food and no effort to buy (Maseko et al., 2019:23).

The use of the school food garden has shown the possibility for children's increased preferences and consumption of fruit and vegetables (Johnson & MacLean, 2020:377-383). If educators support the school food garden, children will learn to appreciate and love the school food garden and have a connection with the school food garden (FAO, 2021:45). A nutritious diet is crucial for good health and nutrition, according to WHO (2022b:78). Hence the subject of promoting appropriate nutritional practices must be treated seriously. A plant-based diet is preferential for children; studies show that people who consume more plant-based food than junk food are less likely to be overweight or suffer from obesity (Ahmad, 2020:19). Globally, several factors have influenced proper eating habits and need to be given more attention. It seems that unhealthy eating habits are outpacing healthy eating habits in most regions worldwide (FAO, 2021:34).

1.10 RESEARCH METHODOLOGY AND DESIGN

Designing a strategy was the aim of this study to try to promote healthy nutritional practices rather than just describe what is happening at the research locations (Mahlomaholo, 2013b:4614). PAR is adopted in the study as an approach to enhance the promotion of healthy nutritional practices by using a school food garden. Aldridge (2016:10) defines PAR as a systematic approach that involves action carrying out research to develop practical outcomes to facilitate change. PAR research design ability is to construct collaborative linkages between the researcher and the participants to improve practice and create new knowledge (Watters, Comeau & Restall, 2010:5). As part of collaborative procedures involving their participation and action, Children's minds are changed as part of PAR's pursuit of world change. Collegiate literature highlights who is considered a co-researcher in PAR (Liamputtong & Rice, 2022:10-12).

Liamputtong and Rice (2022:16) emphasise the need to conduct rigorous research in close cooperation with individuals affected by the subject under study to enact change; PAR includes research concepts, techniques, and frameworks. According to Baldwin (2012:16), PAR functions in two crucial ways: it generates evidence about an ongoing change process and encourages learning among those most affected by the change.

With the involvement of stakeholders looking for answers to problems and concerns, PAR integrates theory with practice, action and reflection (Mceleli, 2019:112). I found PAR a suitable methodology to support the study of promoting healthy nutritional practices through a school food garden. PAR is a research strategy that opposes daily oppression and inequality (Mahlomaholo & Netshandama, 2012:45).

A team of 20 learners, two practitioners, two community farmers and 20 parents were assembled to work together at the ECCE in Mkhondo in Mpumalanga province. The team carried out the study process, which included reflection, planning, action and observation (MacDonald, 2012:37; Chovanec & Khan, 2010:35). The team's task was to discuss students' difficulties when attempting to eat healthy food. The principal, practitioners and team members gathered for the first time to discuss the study's goals and methodology.

1.10.1 The research site

The research site for this study was an Early Childhood Care and Education Centre in Mkhondo in the Mpumalanga province. The ECCE is in a deeply rural area where people are also impoverished. The place for the study is representative of rural settings in the province. When generating data on promoting healthy nutritional practices through a school food garden, the practitioners will be better sources of information. The ECCE is a no-fee school. The class is ancient; it is a house used by German missionaries. The majority of the learners' parents are farm workers. They travel long distances when going to work, and they usually leave home at 4:00 in the morning and return at around 19:00 every day. The children typically go to school on an empty stomach because there is no one to prepare food for them; they carry no lunchboxes and therefore rely on the feeding scheme provided by the Government at the nearest school. The ECCE has an enrolment of 20 learners and two practitioners.

1.11 DATA ANALYSIS: CRITICAL DISCOURSE ANALYSIS

An approach known as critical discourse analysis (CDA) is used to interpret, describe, and explain how discourses maintain and legitimate social inequalities (Mullet, 2018:6; Teele, Nkoane & Mahlomaholo, 2020a:109). It is noted that CDA research investigations are just as liable to repeat ideological presuppositions as other types of scholarly study (Mceleli, 2019:140). A micro-level of social order is achieved through CDA (Van Dijk, 1998:90). According to Jørgensen and Phillips (2002:67), CDA focuses on how discourse structures mimic, replicate, or resist social power relations. Through the utilization of a school food garden, CDA is employed in this study to encourage good nutritional habits. Through a school food garden, CDA investigates fresh perspectives on how to carry out school interventions that encourage healthy eating habits. This study may help teachers empower others to promote healthy nutrition practices using a school garden. The data comprised audio recordings, photographs taken, and notes taken during meetings and when observing (Teele et al., 2020a:109-110).

1.12 ETHICAL CONSIDERATION

The Mpumalanga Department of Education granted full clearance for the study, and its findings and outcomes will be made public. However, participants' identities were kept secret and confidential after joining the study as co-researchers. The procedure required letters of approval from the co-researchers and the parents of the participating children, as well as assent forms and authorization to participate. Co-researchers were assured that participating in the study would not hurt them and that they could withdraw from it if they felt uncomfortable.

1.13 LAYOUT OF CHAPTERS

Five chapters make up the study:

Chapter 1 introduces the study's topic, provides background information, and includes a problem statement, a research question, a research aim and objectives.

Chapter 2's primary subjects include the literature review and theoretical and conceptual framework.

Chapter 3 outlines the research strategy and techniques and details how the data gathered were analysed.

Chapter 4 describes the approach to encouraging healthy nutritional practices through implementing a school food garden, provided in this chapter's data analysis, presentation and interpretation of the findings.

Lastly, Chapter 5 presents a conclusion, summary of findings and research recommendations.

1.14 CONCLUSION

The study aimed to design a strategy to promote healthy nutritional practices using the school food garden at an Early Childhood Care and Education Centre in the Mkhondo Circuit. This chapter included a concise overview of the study's background, problem statement, and aims. A brief explanation of the study's theoretical foundation, conceptual framework, study design, methodology, and data analysis has also been included, along with information on how this report's chapters are organized.

CHAPTER 2 :
LITERATURE REVIEW

2.1 INTRODUCTION

This study aimed to design a strategy to promote healthy nutritional practices using a school food garden at an early childhood care and education centre. The theoretical framework, conceptual framework, and conceptual considerations underlying the study's goal and objectives are presented in Chapter 2. CER can be traced back in time. Then, operational concepts are studied with associated literature from law and policy to promote healthy dietary practises and school food gardens globally and in Africa and South Africa. Understanding the global trends in the challenges to health promotion, we could only analyse one nation from each of the areas mentioned earlier, namely South Africa, Kenya, and the United Kingdom, due to the scope of the study.

2.2 THEORETICAL FRAMEWORK

Grant and Osanloo (2022:13) define a theoretical framework as a roadmap for the complete dissertation. It serves as a lens for viewing the world and a guide on which to build one’s study. Dube and Ndaba (2021:54) point out that the theoretical framework describes the researcher’s worldviews and contains presumptions that direct and guide the researcher's and participants' thoughts and activities. This research employs CER as a guiding lens and bases its perspective on an effort to promote healthy eating habits by utilising a school food garden.

2.2.1 Critical Emancipatory Research’s earliest forms

There are several theories about the beginnings of CER. Still, experts generally agree that it is a branch of the Frankfurt School’s critical theory, which was created by Jurgen Habermas in Germany in 1923 (Ghimire, 2019:81). According to Nkoane (2013 in Dube & Ndaba, 2021:54) the conceptual foundations of CER may be found in several

traditions, including Marx's examination of socioeconomic conditions and class structure, Habermas' concept of emancipatory knowledge and Freire's transformational and emancipatory and pedagogy. Garlitz and Zompetti (2021:22) point out that Karl Korsch is one of the early Marxists working in the early 20th century. However, some prominent writers like George Lukas and Automio Gramaci began critical emancipatory research during the early 20th century, followed by Jurgen Habermas. CER can be traced to Marx's theoretical analysis of the link between economic underpinnings, and the ideological superstructure focuses on how dominance and power are exercised (Garlitz & Zompetti, 2021:30).

Critical consciousness is raised through the CER lens, where the researcher and the study participants collaborate as co-researcher and study participants collaborate as co-researchers to gain insight into the nature and causes of the problematic situation to develop strategies and mobilize support for change (Dube, 2020:154). In reflecting on the space of promoting healthy nutritional practices through a school food garden, interaction with communities is a powerful tool for destroying extremes of injustice, dominance, lack of hope, and marginalization (Dube, 2020:140).

2.2.2 Objectives of Critical Emancipatory Research

By respecting the participants, CER research works to advance social justice and democracy while also advancing humanity, equity and social ideals (Ghimire, 2019:46). According to Spies (2020:26), CER knowledge is expected to be put into practice and used to transform and improve people's lives. To give people a chance to solve their own problems and live their lives to the fullest while following the ideals of social justice, inclusion, and human rights, the CER encourages inclusivity in life-changing situations that can free personalities (Dube & Hove, 2021:88). In CER, the researcher and the research participants collaborate to gain information of the nature and underlying causes of an unfavourable condition to develop strategies and mobilize support for change (Chidarikire, Hlalele & Tarisayi, 2021:98). According to Dube, Jita and Jita (2021:266), emancipation entails that everyone should actively participate in activities that improve the world for everyone, without prejudice, to produce and shape their world

as a whole. CER helps learners and teachers develop their own identities and interpersonal connections (Houdyshell & Zigler, 2020:98). The Critical Emancipatory Research advocates equity, hope, peace, working together, social justice and transformation, thus changing people's mindset and meeting real-life situations (Tshelane & Tshelane, 2014 in Dube & Ndaba, 2021:54).

2.2.3 Justification of Critical Emancipatory Research

The proper theoretical framework for this study's foundation is CER which is due to the knowledge that the researcher is in the best position to identify a suitable, long-term remedy and has the finest understanding of societal issues. CER encourages all stakeholders to work together and agree to support children's healthy eating habits and nutritional practices. Ghimire (2019:56) says when it comes to CER, co-researchers are left in charge of the strategy once the research process is through. It is anticipated that ECCE practitioners will continue to use the strategic framework because they were involved in its development from the beginning. CER assumes that power relations are discursive; in other words, power relations are exercised or transmitted and practised through language and communication (Ghimire, 2019:60). According to Nkoane (2013:99), CER has an agenda to transform and empower; it is also for change of states of co-researchers in CER the co-researchers and the researcher are equal partners in the research process (Dube & Hove, 2021:90). Language and communication are essential in CER for the researcher and co-researchers to make meaning of the world around them. Hence, this framework fits well with the study's objectives (Ghimire, 2019:65). Noel (2016:335) highlights that CER is dialogic and has a dialectical meaning related to the logical discussion of ideas.

2.2.3.1 Principles of critical emancipatory theory

This section will discuss the key concepts underpinning this framework, namely CER. The fundamental principles are communication, emancipation and transformation. These key concepts express how CER is related to the aim of this study.

2.2.3.1.1 CER and the principle of communication

Noel (2016:336) points out that CER aims to improve communication amongst community members because communication is imperative to human interaction. Communication involves two or more people through linguistic communication. Ghimire (2019:65) mentions that CER seeks to ease societal inequalities and eliminate social class struggles but to explore how human beings use language to create orderly societies and interact rationally to achieve consensus. I conquer with the view of Ghimire (2019:65) that communication is essential to find a strategy to promote healthy nutritional practices. It is revealed that when people enter a dialogue, there is potential for expressing power and implying socially tight restrictions for understanding the social world (Noel, 2016:336).

2.2.3.1.2 CER and principle of emancipation

CER promotes emancipation. The goal of emancipation is to liberate everyone from oppression and solve problems related to domination (Noel, 2016:337). Emancipation in this study is associated with inequality and choosing which food the learners should eat at school. Therefore, emancipation gives the learners given unhealthy food daily an equal opportunity to access healthy food through the school food garden. Through emancipation, the community, teachers and learners work together (Houdyshell & Ziegler, 2020:99). Ghimire (2019:65) states that for emancipation to be achieved, the paradigm of communication must be engaged; therefore Ghimire (2019) encourages all human beings in society to participate in decision making that may affect their lives. CER's primary goal is to enlighten and emancipate human persons from forces of ideological beliefs or consciousness that are false, for example, that fruits and vegetables are for the poor (Dube et al., 2021:56).

2.2.3.1.3 CER and principle of transformation

This principle centres the experiences of individuals or a group of people from a marginalised community to explore and understand the reasons for the marginalisation to transform and empower the lives of people (Dube, 2020:92). The primary purpose of the transformation paradigm is to involve community members in decision-making, design and implementation so as a researcher I conquer with Dube (2020:96) because the parents and the school were never engaged by the department of education when implementing nutrition school policy. The transformation principle aims to mitigate inequalities, enforce human rights, and analyse positions of power, by working collectively with the community.

The transformation principle is in line with the study because the lives of the learners who have been eating unhealthy foods are being transformed for the better by teaching them to eat proper healthy nutritional foods through the school food garden.

2.2.4 Ontology

The various realities and the fact that knowledge is not solely created by dominating group are the ontological tenets of critical emancipatory research (Noel, 2016:6). Research agents must be aware of how they fit into the dominant group since marginalized people can participate in research more actively (Noel, 2016:8). As a paradigm, CER is linked to historical realism and the belief that many realities are influenced by social, political, cultural, economic, ethnic, gender and disability values (Ghimire, 2019:77).

2.2.5 Epistemology

The researcher and the researched are linked, and knowledge is placed historically and socially, according to the epistemological tenets of CER (Ghimire, 2022:89). The research can be classified as dialogic because it involves a discussion of concepts (Noel, 2016:4). Therefore, the study recognizes that a mix of ideas from several spheres

regardless of their competence will be needed to successfully promote healthy nutritional practices through the usage of a school food garden (Çalişkan & Yildirim, 2022:707).

2.2.6 The researcher's role

My duty as a researcher is to participate in and facilitate the creation of favourable conditions for the co-researchers to work constructively and collaboratively; this will generate data for promoting healthy dietary practices by implementing a school food garden. The individuals who are at the centre of this issue of promoting healthy nutritional practices are the learners and practitioners who serve as co-researchers. According to Bradbury-Jones and Taylor (2015:161), the researchers' collaborators are the ones who have a deeper understanding of their issue and a solution. Recruiting a co-researcher team was the co-responsibility researcher's task for this study, including practitioners, parents, community farmers, principals and learners. The practitioners participated in the study as co-researchers in a variety of capacities. Power-sharing, dealing with genuine problems, finding solutions, and developing a plan to enhance communication skills are all jointly accomplished. The study's aim, which was to create a strategy to encourage healthy eating behaviours by using a school food garden, might be achieved with the help of CER.

2.2.7 Relationship between co-researchers and the researcher

The researcher emphasizes the value of the relationship with the co-researchers in this section because this relationship is built on trust. The participants and the researcher work together to solve the study challenges as equal partners. The relationship's goal is to generate knowledge pertinent to all parties involved. The CER co-researchers collaborate to achieve a common objective. Sawyer (2010, in Nyembe, 2020:29), who supports this viewpoint, claims to clarify the researcher's background, the researcher and co-researchers work together. Their partnership is built on communication, respect and mutual understanding. The willingness, openness and sharing of experiences,

ideas and perspectives with the same aim define the interaction between the researcher and the co-researcher.

2.3 CONCEPTUAL FRAMEWORK

It is crucial to talk about the modes to comprehend the part performed by the TTM in encouraging wholesome dietary habits through a school food garden.

2.3.1 Conceptualisation of Transtheoretical Model: Its Origins

This section gives a conceptual framework of a transtheoretical model to guide the reader and the user of the study's findings in capturing its place in the study. According to Byrd (2022:1), eating disorders are problems affecting a person’s eating behaviour, attitudes, and feelings about food.

2.3.2 Transtheoretical model

Silver and Worthington (2021) propose the TTM, a stage model of behaviour change that maintains that behavioural change requires moving through several discrete phases. Additionally, it develops a thorough understanding of the change that can be applied to various behaviours, environments, and people. According to Prochaska (2018:5), the TTM views behaviour change as a deliberate process that progresses through several phases of change across time. The transtheoretical paradigm views change as a series of actions that depend on an individual’s level of motivation rather than an isolated occurrence (Nakabayashi, Melo & Toral, 2020:7). There are four constructs, according to Nakabayashi et al. (2020:7): the stage of change, the process of change, self-efficacy, and decisional balance. TTM is a motivational intervention model that focuses on specific objectives for each behavioural problem, such as starting, modifying, or ceasing; for TTM, what promotes behaviour change is motivation, intrinsic and extrinsic.

2.3.2.1 The stages of change

The TTM claims that when making behavioural changes, individuals pass through each stage at varying pace subject to the changing behaviour and the individual themselves. People may move forward, backwards, and back and forth between stages (Silver & Worthington, 2021). People move through this general sequence when changing behaviour; pre-contemplation, contemplation, preparation, action, relapse and maintenance (Nakayashi et al., 2020:12).

2.3.2.2 Self-efficacy

Self-efficacy is an individual's belief that they can perform ad maintain a new behaviour that has substituted problem behaviour (Silver & Worthington, 2021:9). Self-efficacy is the situation-specific confidence people have to cope with high-risk situations without relapsing to their unhealthy habits (Prochaska, 2018:8).

2.3.2.3 Process of change

Process of change are the activities people use to progress through the stages, and It provides indispensable guides for the intervention programmes (Nakayashi et al., 2020:13).

2.3.2.4 Decisional balance

Decisional balance reflects the individual's relative weighing of the pros and cons of changing (Prochaska, 2018:10).

2.3.3 Evolution of the Transtheoretical Model (TTM)

Prochaska and Diclemente created the phases of change model, often known as the TTM, late in the 1970s. To understand why some people were able to stop smoking

successfully, studies comparing the experiences of smokers who succeeded and those who required more support led to the development of TTM (Pennington, 2021:5). Since the TTM was created as an instrument, it has been used in numerous applications for behavioural modification, including optimal eating (Pennington, 2021:6). A comparative analysis led to ideas of psychotherapy and behaviour modification produced the TTM (Prochaska, 2020:2267).

2.4 OPERATIONAL IDEAL DEFINITION AND ANALYSIS

This section aims to define and review the operational ideas driving this research. Promoting healthy nutritional practices and a school food garden will be discussed and contextualised to ECCE in Mkhondo to develop a strategy to promote healthy nutritional practices through a school food garden.

2.4.1 Promoting healthy nutritional practices

In defining the promotion of healthy nutritional practices, the literature draws on what WHO (2020:7) calls replacing unhealthy foods such as fatty and sugary foods and carbonated drinks. Research indicates that everyone has a role to play when promoting healthy nutritional practices; that is, all segments of our society, from home to school and communities, have a role in supporting healthy nutritional choices (Boyle, 2022:7). Kalmpourtzidou, Eilander, and Talsma (2020:1558) indicate that one of the leading major risk factors that contribute to improper eating habits is not always opting for a healthy diet that includes five servings of vegetables and two different fruits every day. A population-based, multi-sectorial, cross-disciplinary and sensitive to culturally appropriate approach, like a school food garden, is necessary to address the societal issue of improving dietary habits because it affects everyone. Alfonso and Mattei (2020:12) state that the motivations and obstacles for people to maintain a healthy lifestyle have been the subject of numerous formative studies. Chaudary et al. (2020:22) say researchers have focused a lot of attention in recent years on interventions in the school environment that encourage young children to eat healthily. Still, there hasn’t

been much agreement on maximising schools' potential to improve health through food-based actions. According to research, basic nutrition knowledge and a favourable attitude about nutrition do not always convert into healthy eating habits; instead, a food environment has a much more significant influence on behaviour than was previously thought, according to (Chaudhary et al., 2020:22). The school is an influential social setting with the potential to encourage healthy eating habits and positive behaviour.

A global problem with healthy eating habits exists. Regrettably, much of it is concentrated in South Africa (WHO, 2020b). The South African statistics translate that 30% of South Africa's food security directly impacts children under five years (Manie, 2021:6).

2.4.1.1 Origins of healthy nutritional practices

The promotion of healthy nutritional practices can be traced back to 1948, when the World Health Organization was founded by the United Nations, which has since focused on global health promotion using different strategies (Raingruber, 2017:25). The WHO (2020c:4) points out that proper eating practices are nothing new. They have long been shaped by various social and economic circumstances that combine in intricate ways to influence each person's dietary preferences. The WHO (2020b:8) further states that dietary advice's initial emphasis was on the food groups that make up an optimum diet, food safety, keeping food, and ensuring that individuals acquire enough minerals and vitamins that their diets could be lacking. As nutrition research advanced, more people became aware of the significant part that fruits and vegetables serve a role in avoiding disease and boosting health. School food gardens have been around for over 100 years, and schools continue to use them today to establish healthy eating habits (WHO, 2020b).

2.4.1.2 School food garden

It has been mentioned that this study is grounded in critical emancipatory research, which serves as a theoretical framework for developing the strategy to encourage healthy eating habits using a school food garden. This section traces the school food garden's history, context, and beginnings as an operational concept.

A school food garden allows learners to grow edible plants like fruits and vegetables (Mantenta & Mzini, 2021:409). A school food garden is a tool for promoting awareness of food production, cultivating a culture and enjoyment of gardening, and establishing a connection between gardening and nutrition (Laurie et al., 2017:2). The school food garden offers a setting for hands-on learning that promotes healthier eating practices (FAO 2022b:67). The school food garden allows collaboration, creativity, sharing, communication with the community and critical thinking; it further becomes a tool for garden-based learning and education (FAO, 2022a:3). Mantenta and Mzini (2020:26) indicate that a school food garden can function as a multi-disciplinary (living) laboratory that actively involves children in horticulture and nutrition teaching. A school food garden is a cutting-edge teaching tool and method that inter-grates practical activities into lessons taught in a traditional classroom. It offers learners a dynamic environment to watch, discover, experiment, care for, and learn (Kunene & Taukobong, 2019:9).

The school food garden offers learners a hands-on learning setting where they may smell the leaves of the garden’s produce and consume some of it while still covered in soil (WHO, 2020b). As it involves the children and motivates them to explore and reason on their own, gardening is practical hobby (Shafer, 2018:15). The government of South Africa supports school food gardens and implements food security by using the National School Nutrition programme, which is allocated a budget to meet its goal; however, schools are encouraged to plant fruits and vegetables to contribute to the feeding scheme and create greater variety within meals served at schools (Manie, 2021:10). In Kenya, they have two programmes that the Ministry of Education established to support school-going children; that is, the school meal programme which only serves girls with low socio-economic status and the locally produced feeding programme; so for fruits and vegetables, Non-Profit Organizations come on board

(Lubeka, Kimingwe & Nyambaka, 2020:86). Twenty-one thousand schools in the UK have signed up to be members of the Royal Horticultural Society. The government has established a task force to investigate organizations that make every school a food-growing facility (Milne, 2022:4).

2.4.1.3 Historical background of school food gardens

According to Jagiello, Malkusz and Szostek (2021:28), according to German architect, engineer, and mathematician Joseph Furttenbach, the school food garden was developed between 1965 and 1968. The history of school gardens in the United Kingdom dates back to the Victoria era as part of nature classes (Wills, 2019:2). In South Africa; the school food garden ran from 1910 to 1930 (Tischler, 2021:1396-1399). According to Tischler (2021:1400), school food gardens were first established in Kenya in the 1920s. According to Gonsalves et al. (2020:3), School food gardens were improved in the 1970s by the expanding environmental movement, which sparked yet another period of significant growth in the 1990s. Various non-governmental organizations have expanded recently, aiding initiatives in communities and schools (Wills, 2019:45). Globally, more people and organizations are becoming aware of the enormous potential that school food gardens have to change the way youngsters learn, understand their surroundings and act appropriately. Furthermore, there is an increasing understanding that school food gardens can serve as valuable learning spaces for addressing the complexity of difficulties we face by encouraging interdisciplinary and integrative approaches and that the school food garden benefits the learners and the larger community (FAO, 2020:50).

Earlier, the history of the school food garden was covered. As Hunter, Monville-Oro, Burgos, Nyhria Roel, Calub, Gonsalves and Lauridsen (2020:67) noted, literature speaks eloquently about the facts that, according to Jagiello et al. (2021:28), the school food garden was created between 1965 and 1968 following German architect, engineer, and mathematician Joseph Furttenbach. In the UK, schools have had gardens since the Victorian era as an element of nature lessons (Wills, 2019:2). The school food garden operated from 1910 to 1930 to promote healthy eating habits. According to Tischler

(2021:1396–1399), school food gardens were initially developed in Kenya in the 1920s. In the 1970s, the expanding environmental movement increased interest in school gardens, which, according to Gonsalves et al. (2020:3), launched yet another phase of a significant expansion in the 1990s. In recent years, several non-governmental groups have grown, supporting projects in communities and schools (Wills, 2019:45). SFGs have a lot of potentials to show students how healthy lifestyles include eating a balanced diet and being outdoors. According to the FAO (2020:58), chances for students skilled in gardening and food continue to develop, regardless of region, due to the rising interest in local food and healthy eating on a global scale. The FAO (2022:1) states that today's major crisis areas are nutrition, the environment, livelihoods, and education; in each area, school food gardens have a demonstrable impact on children's well-being, understanding, and future chances.

2.4.1.4 Place of the school food garden for learning

Zecevic (2021:2) claims that gardening aids children's sensory and motor skills development. Children can also learn about the workings of nature through play. Gardening also promotes healthy eating habits and self-confidence. They pick up virtues like accountability, tolerance, and respect for the environment (Zecevic, 2021:4). A school food garden helps to strengthen norms while encouraging creativity, inventiveness, curiosity, and open-mindedness (Zecevic, 2021:6). According to Zecevic's (2021) study, pupils who take part in a scientific program that stresses gardening, in addition to more traditional classroom instruction, considerably outperform their peers on science exams. According to Pollin and Retzlaff-Fürst (2021:4), children who participate in school food gardens have better social bonds, communicate and cooperate, can relate to others, and can function as a team. School food gardens are valuable tools that foster a healthy diet, involve students in food production, and support reflection on production and consumption models (Eugenio-Gozalbo, Ramos-Truchero, Suárez-López, Andaluz Romanillos & Rees, 2022). According to Njura, Kubai, Taaliu and Shem Khakhame (2020:1156–1159), in Kenya, school food gardens allow children the opportunity to participate in hands-on learning experiences, learn about agricultural

sciences, and promote healthy eating habits. Omeje (2022:1-5) asserts that several academic issues use the school food garden as a launching place for various topics. In South Africa, school food gardens encourage student innovation (Eugenio-Gozalbo et al., 2022).

2.4.1.5 Policies on School Food Gardens

According to South Africa's food and nutrition security policy, DBE (2020:17) is defined as having access to and control over the physical, social, and economic resources necessary to guarantee that all South Africans always have access to enough, safe, and nutritious food to meet their dietary needs (Manie, 2021:10). Diets high in fruits and vegetables and South African nutritional recommendations are the focus of the country's national food and nutrition security policy (Dlamini & Xaba, 2020:1-8). Kenya's National Food Security Policy strongly emphasises healthy eating habits (Kimwele, Mugambi & Ochola, 2019:4-8). In the UK, The Food in Schools Policy, which applies to all grant-aided schools, is their guiding principle. Regarding healthy eating, it promotes a whole-school strategy for the food served and consumed in classrooms.

2.5 RELATED LITERATURE

This section examines research on using school food gardens in other nations to encourage students to lead healthy lifestyles. It is reviewed from the United Kingdom, East African nations, and South Africa; as a result, the literature is examined concerning the study's five objectives, which are the difficulties in promoting healthy nutritional practices, potential solutions to the challenges, favourable circumstances for the strategy's success, conceivable threats to the strategy, and proof of success.

2.5.1 Challenges towards promoting healthy nutritional practices

2.5.1.1 Stress inhibiting the promotion of proper healthy eating habits

It is regrettable that when children feel under pressure, overwhelmed, or unable to cope, they frequently experience stress and sometimes become bullied (WHO, 2021). Stress can occasionally affect children, making them yearn for comfort foods like overly processed snacks or sweets (WHO, 2021). Stress is associated with elevated hunger hormones, which may also affect appetite for harmful foods (WHO, 2021). Children throughout the world experience food cravings related to Stress that raise appetites for fatty or sugary meals, and emotional eating is a pattern of eating when people turn to food as a coping mechanism for stressful events (Galan, 2018:10). When children are anxious they overeat (Clark, 2010:7). Laake, Parratt and Majeed (2020:48) assert that the majority of learners detest fruits and vegetables. Children start to eat in a way that is less influenced by their parents and less related to the school environment when they are stressed (Speedie & Middleton, 2021:351). Children under stress tend to eat excessive amounts of the wrong foods and show signs of unhappiness (Dr Daisy & Co., 2020:6). Stress is a reality of life explained by a social theory known as the stress hypothesis. Many people turn to food as a stress reliever or to sate their excitement or anger, which can result in body weight gain and other harmful impacts on one's health. According to psychological theories, stress might cause people to choose items like tea, coffee, or energy drinks when they otherwise wouldn't if they were experiencing a different emotion (Malambe, 2021:27; Michels, Mn, Vinck & Verbesyt, 2020:65). Research reveals that learners appear to overindulge in snacks like ice cream, chocolate and biscuits during their test period because of too much stress, which leads to impulse eating such as consuming too much junk food; emotions not only affect what one eats but also how much food is consumed (Abraham, Martinez, Salas & Smith, 2018:567).

According to reports from schools across the United Kingdom, 56% of learners have eating disorders as a result of stress eating (WHO, 2020c). Previous studies have shown that feelings of boredom and loneliness might primarily serve as triggers for children's problematic eating behaviour (Bruce & Agras, 1992 in McAtamney, Mantzios

& Wallis, 2021:10). There is scientific proof of a link between stress and health, including how it affects children's eating patterns (Choi, 2020).

The issue seen in South Africa is that stress eating has led to many children becoming obese due to overeating (Hill, Connor, Clancy, Moss, Wilding, Bristow & Connor, 2021:300-302).

2.5.1.2 Social pressure inhibiting the promotion of proper eating habits

American Psychology Association (2022) defines social pressure as the influence one person or group exerts over another. Examples include peer pressure, media, parental control, tuck stores, and other social pressures. Children prefer fast food over traditional home-cooked cuisine, according to (WHO, 2022b). This preference has been linked to the effective marketing methods used by multinational firms to advertise processed foods with poor nutritional value. According to the researchers, children can quickly recognize the logos of well-known multinational food and drink companies like McDonald's, Coca-Cola, and Kentucky Fried Chicken, making them more inclined to favour processed foods to blend in with their peers. Compared to their alternatives, healthy foods are advertised less frequently—less than 3% of the time (Laurie et al., 2017:6). A convincing commercial might cause young children to develop desires for dangerous items they have never even tried.

The social modelling hypothesis asserts that modelling processes have an impact on behaviour. According to this idea, a person tends to model other people's behaviour after observing it (Wills, 2022:54). According to a study in the journal Child Development, children in the ECCE age group imitate their classmates' eating habits (Faye, Fonn & Kimani-Murage, 2019:511). Researchers from Aston University claim that social networks can affect a person's eating habits (Green, 2020:4). One study revealed that parents in Kenya, South Africa, and the United Kingdom send their children to school with food that doesn't adhere to dietary guidelines (Kinoti, 2019:3; Midigo, 2019:19). People in a child's environment have an impact on their eating habits (DeJesus, Du, Shutts & Kinzler, 2019:56). Most unhealthy foods are marketed to children, so the government must step in by limiting this marketing and promoting healthy eating instead (Araya et al., 2020:98). The other theory is the food choice

process model, which aims to explain the elements that affect individual food choices. The model describes how children's eating habits are influenced by various bio-psychosocial factors, including physical, cognitive, and socio-cultural effects (Allen, 2012:3-4).

Section 28 of the Bill of Rights in our Constitution (RSA, 1996) explicitly states that every child has a right to basic nourishment; parents sometimes lack the time or resources to prepare appropriate food for their children, which is a significant concern. The biggest error made in the UK is that there is no official guideline on school-packed lunches, even though section 114 of the School Standards and Framework Act mandates that food served to learners at schools in England must meet specified nutritional standards (Adamson, Spence, Reed, Conway, Palmer, Stewart, McBratney, Carter, Beattie & Nelson, 2018:1-12). The draft Nutrition Education Strategy is intended to make every school healthy, where health promotion and awareness are integrated into school life. Still, there is no evidence that South African Schools' legislative framework is followed. In Kenya and South Africa, adequate provision of healthy food in school policies is absent; if present, they are not implemented (WHO, 2022b).

2.5.1.3 Lack of gardening skill

The ability to apply knowledge quickly and efficiently in the execution of performance is referred to as competence in the context of this study (Thoca, Pereira & Oliveira, 2014:658). The ability to garden is essential in this study since it facilitates the operation of the school food garden and increases children's awareness of the necessity of gardens (Hoover, Vandyousefi, Martin, Nikah, Cooper, Muller, Marty, Duswalt-Epstein, Burgermaster, Waugh & Linkenhoker, 2021:594). The National Development Plan's following elements are in line with the food garden policy: ensuring that all South Africans actively participate in their own development; effectively redressing historical injustices; and further, the policy's objective is to create liveable, accessible, and multi-opportunity communities (Food Secured School Africa, 2018:70). Everyone has a right to enough food and water, according to Section 27 (1) (b) of the Republic of South

Africa's 1996 Constitution. People must have access to food to realise this, and school food gardens will make this possible.

The effectiveness of the school food garden is significantly hampered by the lack of gardening knowledge in the United Kingdom. Therefore, the FAO (2021:45) encourages people to learn gardening skills so that children can take care of their plants, eat food they've grown, and understand where fresh food comes from. Last but not least, children do not understand the value of the garden (WHO, 2021). Lack of gardening knowledge among children, parents, the community, and school teachers is a problem that is seen around the world, which makes it challenging to promote nutritionally sound habits (WHO, 2021). According to Araya et al. (2020:23) and DEFRA (2020:10), the most significant obstacle to a school food garden is a lack of gardening knowledge.

Children never understand that growing one's own fruits and vegetables improves accessibility and inspires youngsters to respect and enjoy garden produce (Chan et al., 2022:24-25).

2.5.1.4 Lack of awareness/knowledge about healthy food

This study considers unhealthily processed foods, such as fast and snack foods, harmful (Fuhrman, 2018:378). Children and the community are under-informed about the advantages of consuming locally grown food, according to Maundu (2022:4). Parents must change their mindsets because, just a few years ago, fruits and vegetables were mainly seen as foods for the underprivileged, dull, and the past (WHO, 2020a). Children are unaware of the adverse effects fast food has on their health (WHO, 2020a). Unhealthy diets are one of the world's top causes of non-communicable diseases. Still, children are ignorant of this (Li, Li & Sun 2022:24). According to Molotja, Maliwichi and Jideani (2020:99), there is mounting evidence that children in developing nations are increasingly choosing harmful foods due to ignorance and false beliefs about what constitutes a good diet. Food theory is a concept used to describe how individuals think about food. It has been connected to childhood (Sandra, 2020:4). The food choice process model aims to clarify the variables that affect people's food

preferences. According to data from Euro Monitor's international packaged food and beverage consumption (PFBC), the increased usage of sugar as a component in processed foods has increased the overall consumption of fat, sugar, and sweeteners (WHO, 2021).

In schools, children do not get enough exposure to nutritious foods, and teachers make little to no effort to inform children about the advantages of eating a healthy diet (Choi, 2020). According to Steyn et al. (2020:48), 78% of Kenyan schools have the land to create school food gardens, but they don't make the time to do so because they are not well-versed in the value of eating wholesome foods. Teachers do not adequately instruct learners, and under the influence of the media, children are led to assume that nutritious diets like vegetables are only for vegetarians and vegans (Byrd, 2022:75). It is everyone’s responsibility to know that proper eating habits are crucial for health and nutrition (WHO, 2021).

2.5.1.5 Lack of knowledge about organic foods

Fruits and vegetables that are farmed without dangerous pesticides, radiation, fertilizers, or other synthetic materials are considered organic foods (Ashaolu & Ashaolu, 2020:10). Currently, no law in place regulates the manufacturing of organic foods in South Africa (FAO, 2022b:60). Kenya's National Agriculture Policy of 2019 offers a framework for action that calls for the promotion of organic farming, and the organic sub-sector is relatively small but expanding quickly, notably in fruits and vegetables (Ministry of Agriculture, Livestock, Fisheries and Cooperatives, 2021: 3-21). The difficulty with organic food is getting it. Organic foods are expensive, so only the wealthy or those who care about the environment can purchase organic foods (FAO, 2023). The British Soil Association, AFRISCO, Ecocert, and other organizations provide a variety of worldwide standards for organic foods (Villiers, 2016:15). Woolworths has a page on its website devoted to organic items in South Africa. Organic foods and conventional foods are constantly at odds on store shelves, with organic foods being more expensive (Fynn-Green, Mason & Giampiccoli. 2019:67). According to the idea of planned behaviour, comprehending organic foods products and having subjective and

objective knowledge about them are positively correlated (Fynn-Green et al., 2019:68). Children lack knowledge about organic foods, which prevents them from understanding how delicious and healthful they are (De Villiers, 2016:20). The European Union has a variety of organic policies, including respecting the biological systems of nature. It was determined that South Africa needed a National organic policy. However, it hasn't been finalised yet (FAO, 2022a:46). The idea of planned behaviour demonstrates a positive association between subjective and objective knowledge about organic foods (Fyn-Green et al., 2019:68).

2.5.2 Possible solutions to the challenges that avert the successful promotion of healthy nutritional practices

2.5.2.1 Responding to stress that impedes proper eating habits

Individuals' food preferences can be influenced by psychological aspects such as personality, mood, attitudes, and reasons for eating certain foods. Emotional status and dietary choices are related. People who are under stress may choose particular foods that they otherwise wouldn't if they were experiencing a different emotion (McAtamney et al., 2021:94). According to McAtamney et al. (2021:97), one should aim to put enticing foods such as sweet baked goods, candy, chips, and cookies out of sight to avoid overeating. A school food garden's key advantage is helping learners learn to unwind, develop the habit of soothing themselves, become accustomed to being alone, breathe fresh air, and find tranquillity (Malik, 2020:23). Children who garden show a significant reduction in stress hormones. According to researchers, they always show signs of being happy (Taylor et al., 2021:408). According to a different study, people who had access to a garden experienced fewer stressful situations and fewer worries (Flava, 2016:4). In addition to improving mood, school food gardens also have a good effect on people's health and well-being (Flava, 2016:7). The stress-busting powerhouses of fruit and vegetables can assist in regulating cortisol, which triggers emotional eating (WHO, 2022a). South Africa's existing food and nutrition policies fall short of their intended goals (FAO, 2022a:112). Behaviour change is discussed in theories of change, so people under stress need to quit overeating and choosing

unhealthy foods as a form of self-medication (Aromatario, Van Hoye, Vuillemin, Foucaut, Pommier & Cambon, 2019:33).

2.5.2.2 Responding to social pressure that inhibits proper eating habits

Peer pressure can sometimes result in beneficial habits being adopted; therefore, it's not always harmful. Children could want to embrace their peers' healthy behaviours, for instance, if they observe them eating fruits and vegetables. In this study, social pressures total all the pressures we experience in daily life. Learners consume significantly more fruits and vegetables when parents, teachers, and the community are involved in the school food garden (WHO, 2020b). The possibility that learners will pick healthy snacks in the future increases by implementing incentive snacking or good snacking, even though many of us purchase our meals from official sources like tuck shops (WHO, 2020c). According to research, communities can benefit from using a school food garden by having access to a variety of nutritious foods (WHO, 2021). According to research, no nation has, to their best knowledge, implemented a comprehensive spectrum of well-informed initiatives to promote a healthier food system (WHO, 2020c). Some social pressures might be advantageous. For example, if children participate in school food gardens with their friends, they grow to appreciate fruits and vegetables; youngsters are drawn to the garden and discover the value of teamwork (WHO, 2020b).

Dr Tedros Adhanom Ghebreyesus, the director-general of WHO, asserts that healthy eating should be encouraged rather than discouraged in public venues that serve the entire community, especially our most vulnerable groups (WHO, 2021). Learners who participate in a school food garden can have a transition from snacks to fruits and vegetables (WHO, 2021). The attendance improves if learners are involved in the school garden with their peers as they work happily and collectively in the garden (FAO, 2022a:97).

2.5.2.3 The solution of having a gardening skill

Growing plants has a favourable impact on general health since children have the most significant capacity for learning and early exposure to nature. Children who garden develop their senses and motor skills, learn the value of the environment, foster healthy eating habits, and can participate in family traditions that bring the family together (Zecevic, 2021:5). Children who work in the garden develop a greater liking for fruits and vegetables as snacks. Eating what one grows is half the fun of gardening. When parents garden with their children, the results are even better (Flava, 2016:10). As the garden provides such a high level of sensory input that stimulates young children's brain connections, gardening in early childhood settings fosters holistic learning. Using tools helps children develop their motor skills, and school gardens foster curiosity as children witness what occurs when they plant seeds, encouraging them to try the food they have grown (Christina, 2021:6).

Spending time in the garden provides an opportunity to develop a variety of talents, including character development, creative ideas, love and appreciation of nature, and physical, emotional, spatial, and mathematical abilities (Mcilroy, 2021:4). It is also thought that gardening combines different subjects of instruction while providing education and increase fruits and vegetable consumption (Laaksoharju, 2020:63). Literature attests that gardening expertise may lead to greater fruit and vegetable intake thus encourages healthy ageing, resilience, adaptability, creativity, self -transcendence and beneficial lifetime attitude and habit forming effect (Laaksoharju, 2020:70-75). When children tend plants and grow their own food, they learn new skills, have fun, play and develop self-confidence.

2.5.2.4 The solution towards knowledge/awareness about healthy food

A recent study has concentrated on familial and social influences on children's dietary habits in response to the growing problem of childhood obesity. Numerous elements, such as consumer understanding of nutrition and health, as well as consumer taste and preferences, have an impact on the development of unhealthy eating habits (Masilela,

Pearce, Ongole, Adeniyi & Benjeddou, 2020:25). When families dine together, there appears to be a higher intake of fruits and vegetables and a decrease in the consumption of soft drinks (Maundu, 2022:27). Throughout the world studies have shown that reprogramming your child's taste preference helps them to start earlier to seek healthier meals. One study indicates that school food garden fosters greater feelings of love, understanding, food knowledge, and desire to try new fruits and vegetables (Garcia, Coelho & Bogus, 2017:7-8). According to the WHO (2020b:5), the nutrients one needs to stay healthy, feel well and have adequate energy are found in healthy foods.

Other studies have shown that vendors in and around schools in South Africa sell unhealthy foods; thus, there is a need for healthy foods campaigns in schools (Abrahams, De Villers, Steyn, Fourie, Dalais, Hill & Lambert, 2011:34). According to the social cognitive theory, to engage in specific behaviour, a person must be aware of it and be mindful of how to carry it out (Bandura, 1998:187). Through social media postings and television advertising, social media may be utilized to encourage children to consume healthier meals; this will significantly benefit the children because social media is the most popular means of communicating, influencing, and transmitting messages. The healthy foods theory encourages using cooperative, independent, and participatory processes to address people's actual problems (Choane, 2021:108).

2.5.2.5 Knowing organic foods towards proper eating habits

In this study, natural food includes organic food. Demand for organic foods has increased as more people look for and buy foods they believe to be healthier and produced in a way that benefits the environment. According to some research, crops grown organically have a better nutritional value than those grown similarly conventionally. Some people even perceive organic foods to be tastier (Duram, 2022:15). The flavours and tastes of fruit and vegetables grown organically are noticeably better and more natural, and they are very fresh to eat (Soomro, 2020:6; WHO, 2020c). According to research, organic farming has become more prevalent in South Africa, and the market for organic foods has grown (Uhunamure, Kom, Shale,

Nethengwe & Steyn, 2012:1). According to a South African study by Uhunamure et al. (2021:4-5), when compared to other European countries like the United Kingdom, sales of organic food in South African food markets are pretty low., despite industry growth and development potential. Eating organic food supports nature; it guarantees a healthy diet and protects against chemicals that would otherwise find their way into food goods. According to national and international literature, consumers who buy the most organically produced food groups are fruits and vegetables (FAO, 2022b:45). Functional foods offer cutting-edge technological features and make health claims (Ashaolu & Ashaolu, 2020:105). Lim Tung (2016:13-20) indicates that numerous research has demonstrated that people who consume many organic products frequently follow dietary routines that contain more fruits and vegetables.

The theory of planned behaviour covers all behaviours that humans can govern with self-control, so everyone can consume organic foods because it is the best and healthiest option (FAO, 2022a:103).

2.6 CONDITIONS CONDUCIVE TO PROMOTING HEALTHY NUTRITIONAL PRACTICES

This section examines factors that can make a school food garden effective for promoting a healthy diet.

2.6.1 Collaboration with different stakeholders towards promoting healthy nutritional practices

A school that promotes health offers a place where learners, families and the community can work together to enhance health by addressing healthy promoted nutrition (WHO, 2021). Parents must understand healthy eating habits; as parents set up their homes to support healthy nutrition, changing their own eating habits may be one of the most effective strategies to encourage their children to eat healthily. Mass media can encourage new behaviours so that they can be used on a national and local

scale for the promotion of healthy nutritional practices. Educators and learners must work collaboratively to promote healthy nutritional practices using a school food garden. According to Abdul Malak (2022:2), coordination, knowledge exchange, and interpersonal skills are necessary for efficient collaboration. Collaboration promotes effective communication and partnerships and provides equal opportunities among team members (Bansal, Mahendiratta, Kumar, Srma, Prakash & Medhi, 2019:138). Collaboration is a condition conducive to the success of designing a strategy to promote healthy nutritional practices through the school food garden. Conditions of a successful strategy include working collectively, networking, sharing power, acceptance of change and sharing decisions to promote healthy nutritional practices.

2.7 THE THREATS TOWARDS PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF THE SCHOOL FOOD GARDEN

This section will demonstrate threats to the use of the school food garden to succeed in enhancing proper nutritional practices.

2.7.1 Lack of different stakeholders engagements in schools when promoting healthy nutritional practices

According to Hoover et al. (2021:591–596), administrative and district support are essential for the school food garden's success. As a result, school principals must encourage teachers to incorporate school food gardens into their lessons. Failure over time is common when teachers and parents start school food gardens without administrative backing. The school food garden will meet superior healthy and nutritious standards when all stakeholders participate. According to the FAO (2019:30), including stakeholders in school food gardens is crucial for their sustainability and independence; this commitment should include teachers, students, and governing bodies, government agencies, such as the DBE and the Department of Agriculture. According to the DBE (2020:56), to ensure the success of the NSNP program, school principals must take on a managerial role, bearing ultimate responsibility for the management and upkeep of

school-based vegetable gardens (DBE, 2020:59). Governments can promote the growth of school food gardens by taking the initiative to foster cross-sectorial cooperation, provide funding, create a national curriculum, and participate in school interventions (FAO, 2022b:98).

2.7.2 Lack of knowledge about ways of promoting healthy nutritional practices

According to Hoover et al. (2021:594), adequate teacher gardening training and skills are crucial for successful and long-lasting school gardens. If teachers are skilled in gardening, school food gardens will offer a break from traditional classroom learning, giving students a different way to learn crucial skills, allowing them to have more experiential and kinaesthetic lessons and fostering better healthy eating habits. According to DEFRA (2020:10), in the UK, teachers who have the necessary training in the topic must teach school gardens to be successful. Courses should be available for working teachers who are already in charge of school food gardens or want to create one. To operate a successful school food garden in South Africa, Araya et al. (2020:23) advise having qualified educators and garden staff.

2.7.3 Teacher and learner attitude towards promoting healthy nutritional practices

Vivier (2020:2) claims that school food gardens were established in South Africa because the country has a high rate of stunted and malnourished children and understands the need to provide children with the nourishment they require to grow. At those schools where they produce enough and sell some of their produce to the community, there are documented negative attitudes that the school food garden is dirty and someone is stealing profit (Araya et al., 2020:45).

Governments may lead the way in shifting perceptions, encouraging cross-sector collaboration, and supporting the professional growth of practitioners to support a school food garden movement (Araya et al., 2020:68).

2.8 INDICATORS OF SUCCESS

Indicators of success in developing the plan to encourage healthy eating habits through the implementation of a school food garden are examined in this section. The study would be successful when the students' eating patterns permanently changed. If there is cooperation, there is substantial evidence that school food gardens boost participating children's consumption of vegetables and willingness to try new veggies (Johnson & MacLean, 2020:377-383).

2.8.1 The indicators of success in promoting healthy nutritional practices

The DBE requests that PEDS maintain the school food garden. The National School Nutrition Programme (NSNP) team at the DBE is happy that schools have accepted the school food garden program to encourage students to follow good eating habits. Since being implemented in schools in 2004, food gardens are becoming more popular (DBE, 2020:5). Growing one's own food can improve access to fruits and vegetables at home and in schools while teaching kids to value and appreciate the bounty of the garden. In the long run, this might boost kids' preference for, willingness to try, and potential intake of fruits and vegetables (Chan et al., 2022:24-25). Children who work in the school food garden learn a lot about gardening while doing it, and it's a good way for them to get their first taste of vegetables (Ozer, 2007:847). The students participating in a school food garden are more interested in veggies.

2.9 CHAPTER SUMMARY

This chapter evaluated related literature and provided a theoretical framework for the study—critical emancipatory research—as well as the conceptual framework for the analysis—a theoretical model. It addressed where the theory came from and what it aimed to accomplish. It was discussed how critical emancipatory research takes an ontological and epistemological approach. The operational terms and the duties of the researcher and co-researchers were also discussed. The chapter also reviewed other

relevant literature informed by the study's goals. There was a discussion of problems, potential fixes for issues, circumstances that might help the strategy succeed, and realistic dangers to the strategy. United Kingdom, Kenya, and South Africa all produced relevant literature.

CHAPTER 3 :
RESEARCH DESIGN AND METHODOLOGY ON DESIGNING A STRATEGY TO PROMOTE HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN

3.1 INTRODUCTION

This project aims to develop a plan to encourage good eating habits using a school food garden. How to use a school food garden to promote good dietary habits was the topic of the study. The research's goals were to:

- Investigate the challenges resulting from improper eating habits when there is no school food garden;
- Scrutinize the diverse strategies to promote healthy nutritional practices using a school food garden at an ECCE;
- Draw attention to the elements that make up a strategy for using a school food garden to promote healthy nutritional practices;
- Anticipate possible threats when using the school food garden to promote healthy nutritional practices; and
- Understand and investigate indicators of success, i.e., that a school food garden enhances proper eating habits.

Chapter 3 presents the operationalization of the objects of the study. I selected participatory action research (PAR) as a methodology to accomplish the study's aims. This section presents the PAR methodology, as PAR is known that involves researchers and co-researchers working collectively to understand a challenging situation and transform it for the better.

3.2 PARTICIPATORY ACTION RESEARCH (PAR) AS THE PREFERRED APPROACH

The utilization of the school food garden is proposed in this study as a means of promoting healthy nutritional behaviours using participatory action research (PAR). For action or change, a systematic inquiry is used in direct collaboration with individuals impacted by the subject being examined. This practice is known as Participatory Action Research (PAR) (Vaughn & Jacquez, 2020:2). Participants, communities, and other interested parties are actively involved in the definition of the research questions, data collection, and recommendation-making processes in participatory action research studies (Vaughn & Jaquez, 2020:6). PAR uses the pooled knowledge of the researchers, participants, and study communities to produce more insightful findings and suggestions (Vaughn & Jaquez, 2020:145). In addition, while using PAR involves the same reflexivity as other qualitative research methods, its foundation in collaborative work means that unique ethical implications can develop throughout the research process. As a result, the topic of power is given prominence in PAR literature (Vaughn & Jaquez, 2020:148). Teele et al. (2020a:108) indicate that PAR was created as a strategy that enables researchers to collaborate with people to foster their willingness to take action for change and emancipation.

PAR never assumes that school communities are ignorant; instead, it assumes that they possess crucial knowledge that can be used to address issues in their local contexts (Mahlomaholo, 2013c:320). According to Chevalier and Buckles (2019:46), PAR entails researchers making a determined effort to include community stakeholders in the decision-making process from planning to the study's conclusion. PAR initiatives give selected community groups the knowledge and ability to investigate their setting to change how things are done in this area (Kemmis, McTaggart & Nixon, 2017:28).

3.2.1 The origins of PAR: relationship to CER and objectives of the study

The roots of PAR cannot be linked to a single tradition; instead, PAR is the result of the fusion of several traditions, spanning from the academic fields of social work, public

health, and education to well-known social justice organizations (Zuber-Skerritt, 2021:592). The exact roots of PAR are debatable, according to Nelson (2017:2). However, authors like Kemmis et al. (2017:26) attribute the theory to Kurt Lewin, a psychologist and Jewish refugee from Nazi Germany (Jacquez, Dutt, Manirambona & Wright, 2021:236). PAR has significantly and notably impacted community development and togetherness. Furthermore, Jacquez et al. (2021:310) claim that indigenous women who opposed drug users and societal violence were the originators of PAR. Several pieces of literature expose the beginning of PAR (Jacquez et al., 2021:239; Kemmis et al., 2017:30) and trace the history of PAR in 1944, which was conceptualised as an approach of action during research in the works of Kurt Lewin, who was regarded as a father of action research. Lewin (1994 in Nelson, 2017:3) elaborates on the action during research as a proposal that allows anyone drawn in the study to participate in decision-making. Participatory research is viewed as a substitute philosophy of social research related to social change.

Early in the 1970s, Tanzania introduced PAR, which described community-based, interconnected initiatives including education action and social investigation, according to Kemmis et al. (2017:39). Marja Lisa Swantz initially impacted PAR. Kemal Mustapha, an African coordinator of PAR affiliated with the University of Dar es Salaam, later defined it as participatory research (Kemmis et al., 2017:44). In 1974, Mustapha and a few students released their first publication, which garnered a lot of interest from various academic institutions and researchers (Jacquez et al., 2021: 334). Fail wanted the dominant majority countries to lead the work started by Hall and others. After a series of reflections with fellow Latin American intellectuals and scholars, Borda combined action and participant research to create participant action research. In 1977, Borda met with Hall to discuss what might lead to the further development of PAR (Jacquez et al., 2017:338). PAR expanded through partnerships with non-governmental organizations in the 1980s and 1990s (Jacquez, 2017:334). The Borda-initiated action research in the social and educational sectors was integrated and became known as Participatory Action Research thanks to the global network and connections (Denzin & Lincoln, 2011:389).

Dube (2016:100) cites collaboration, diversity, and many theoretical viewpoints when talking about PAR: I mentioned that PAR would address issues affecting groups that have been left out owing to their ethnicity, gender, age, and other characteristics to develop cooperative solutions to their problems.

3.2.2 Objectives of PAR

There are many goals for participatory action research, but I'll concentrate more on the ones that appear applicable to this investigation. PAR aims to examine and make changes to a specific neighbourhood, community, school, organization, group, or team. Through action research, PAR strengthens the team members' knowledge and enhances their cognitive abilities (Hawkins, 2015:6). Participatory action research challenges the idea that our schools and communities lack knowledge that can be used to address issues in their contexts by facilitating access and participation for the community of the socially and economically disadvantaged (Mahlomaholo, 2013c:320). Gendron and Ferreira (2011:156) outlined seven points of PAR: Various groups of helpless individuals are included. The target population participates fully and actively in the study process. The community is the source of the research's topic and defines, analyses, and resolves the issue. The ultimate goals are the profound alteration of social reality and the enhancement of human life—the residents of the community gain from the research.

3.2.3 The relevance of PAR

The entire community benefits from the utilization of PAR yields. PAR is not research conducted on another but with another; it creates evidence about an ongoing change process and encourages learning among those closest to the change. This kind of study partnership enables all interested parties to consider one another's viewpoints and advance their own education (Teele, Nkoane & Mahlomaholo, 2020b:9; Jacobs, 2016:49). Post-formalism in participatory research involves several methods of documentation, including video and voice recording, of what we are doing and our

findings, and is known to emphasize research that allows the action to take form, pays careful attention to power relationships and distinctions, and has fewer self-motivated methods that eliminate information and evidence from their frameworks. In addition, Teele et al. (2020b:10) note that PAR is a social process of cooperative learning accomplished by teams of people who jointly try to change things through applications they engage in the social realm. Action is one of the stages in the cyclical process of PAR, including planning and critical reflection. Through interactions with those who have an interest in the research at hand, PAR aims to promote social justice (Calabria & Bailey, 2021:4). Individuals, groups, and stakeholders as communities are acknowledged by PAR as having unique information and/or expertise about the relevant study subject (Kemp, Bailey & Barnard, 2019:240). Informed by the process of knowledge building, PAR supports the sharing of power and authority throughout the research process in the manner in which data are gathered and analysed (Ponzoni, 2016:560). By exchanging ideas and ensuring that all perspectives are heard and valued, PAR uses action research to shape the lives of community members (Calabria & Bailey, 2021:6). All study participants, including community members and stakeholders, will be asked to participate in the study voluntarily. To achieve greater justice, systems and institutions can be changed through PAR; justice is measured regarding the fair opportunity, access to resources, fair procedure, and recognition or respect (Dube & Tshelane, 2017:816). Because it meshes nicely with Critical Emancipatory Research, PAR is appropriate for the study.

3.2.4 PAR promotes teamwork and collaboration

Participatory action research fosters a culture of collaborative inquiry, teamwork, lifelong learning, and community ownership of activities. In this study, practitioners and students collaborated as a team. This teamwork strategy likely helped the intervention promote good eating habits by utilizing the school garden to take root. The concept of practitioners including students in such research procedures gives the students a chance to submit modifications and innovations that influence and affect their healthy eating habits. Mackay (2016:3) demonstrates how collaboration transforms how people

think about research and development so that even those who are socially disadvantaged can participate in creating knowledge that impacts them. To conduct participatory action research, researchers must respect and understand the people they work with and for. They must also become aware of the local population's expertise and how they may collaborate with researchers to conduct the study, analyse problems, and suggest solutions (Dube & Tshelane, 2017:820). Taking care of a school food garden demands cooperation among students as they strive toward a common objective.

3.2.5 PAR is democratic

According to Torre (2022:1324), (PAR) is a research methodology devoted to democratic values of justice and equality. It is an inclusive research practice defined by involvement and the determination to develop knowledge in the service of social change.

3.2.6 Formats of PAR

At the second Cartagena conference in the 1990s, various streams of PAR were born (Kemmis et al., 2017:14). At the same conference, it was recognized that while the interactive style can alter, the fundamental idea of knowledge creation and progress through discussion and reflection remained the same. Following that, three popular participatory research methods—Action Research (AR), Community-based participatory research, and Participatory action research—were discovered (PAR).

3.2.6.1 Action Research (AR)

AR is the ancestor of PAR. Lewin (1952:100) was the first to conceptualize action research, and Carr and Kemmis (1986) and others further developed it. In short, action research is a spiral cycle of action and study that includes four main phases: plan, act, observe, and reflect (Zuber-Skerritt, 2021:58). Zuber-Skerritt (2021:59) adds that the goal of action research is to enhance practice and, if necessary, to propose and

implement modifications to the surroundings, circumstances, or contexts in which that practice is carried out. Technical action research is specific issue-solving focused on changing a finicky practice outcome, and it is considered adequate when results meet aspirations (Chevalier & Buckles, 2019:771). Technical action research's primary goal is to improve the results of practice or intervention. The focus of the research process is often decided by parties that are not directly involved in the practice (Chovanec & Khan, 2010:67). In (TAR), there is an asymmetric, one-way relationship between the participant-researcher and other research participants, and the participant-goal researcher is to improve the methods to achieve the outcomes (Cresswell, 2011:98).

3.2.6.2 Participatory Action Research (PAR)

Participatory action research combines participation and action to understand and address societal issues; emphasizes the democratic process in participation with others rather than research for research's sake conducted on people or community (Vaughn & Jacquez, 2020:5). According to IvyPanda (2022), PAR is a technique of carrying out research through action; it means objects of the study are also actively involved in the research process; they become researchers themselves, and it includes collaborative inquiry, emancipatory research, action learning and contextual action research. Combining action research and participatory research gave birth to PAR, as IvyPanda (2022) indicates, that PAR brings together the habits of participatory research and action research. In PAR, a researcher identifies a problem that afflicts a particular group of people or community; however, the researcher does not proceed to study the problem and find a solution without first contacting the group/community that is afflicted by the problem, and this group of people becomes part and parcel of the study processes (Chevalier & Buckles, 2019:76; Kemp et al., 2019:237) point out that PAR has several attributes, which include understanding, mutual involvement, change and process that encourage personal development. According to Kemp et al. (2019:239), change is an essential element of PAR because change comes about when the study results are implemented and the problem is solved, thereby making the lives of the participants and those of the larger community better than they were before.

In the research reported here, the team members recognized challenges regarding their consideration of promoting healthy nutritional practices; as a result, they designed a strategy with the researcher.

3.2.6.3 Community-based Participatory Research (CBPR)

One of the styles of PAR is Community-based Participatory Research (CBPR), which likewise emphasizes a collaborative method that somewhat incorporates all participants in the research process and acknowledges the skills that everyone provides (Tremblay, Martin, McComber, McGregor & Macaulay, 2018:3-40). According to Tremblay et al. (2018:9), CBPR also promotes the sharing of power between the researcher and the subjects being studied, recognizes the validity of experience knowledge, and concentrates on research that aims to advance practices. Participatory community-based research is significant and pertinent to the subject. In contrast to positivistic presumptions, CBPR recognizes that knowledge is socially created. Research methodologies enable social, group, or communal study of personal power and knowledge experiences (Jull, Giles & Graham, 2017:10). Breaking the control over information production and highlighting the various sets of interest and authority affairs are PAR and CBPR's primary goals (Jull et al., 2017:14). Community members are seen as partners in the research process and experts on issues that are important to them in community-based participatory research (CBPR), which is a power-equalizing approach. CBPR approaches have also grown to be crucial means of addressing community vulnerability in times of crisis (Salma & Giri, 2021:4). Community-based participatory research, according to Jull et al. (2017:15), is characterised by participation, working in partnership with the community people and researchers in a joint course in which each contributes uniformly to a co-learning process, including the creation of systems and local capacity CBPR is an approach to research that frequently focuses on health-related concerns and somewhat incorporates all partners, including researchers and community members, in all phases of the research process, from study design through dissemination. I find CBPR acceptable for the study (Vaughn & Jaquez, 2020:8).

3.2.7 The ontological and epistemological stance of PAR

3.2.7.1 Ontological stance

According to Ngulube (2015:127), ontology is the practical foundation for field-specific research. Ontology refers to whether one thinks there is one variable reality or several socially created realities (Kawulich, 2012:1). Ngulube (2015:126) claims that ontology represents the worldview by outlining the physical surroundings of the earth and how people fit within them.

3.2.7.2 Epistemological stance

In PAR, information is produced from the perspective of relationships and the gradual relationship-building process. “The philosophy of epistemology is how we come to know” (Mceleli, 2019:102).

3.2.8 The role of the researcher

Clarifying the position of a researcher is crucial since, in PAR, the researcher is at the centre of the research process (Unluer, 2012:1). According to MacDonald (2012:43), PAR is a transforming, empowering process that enables researchers and co-researchers to produce new knowledge jointly. Thus, PAR decentralizes traditional research and liberates it. CER, which makes it abundantly evident that research transfers power and control from researchers to individuals who would be the research subjects, provides insight into the function of the researcher in the study (Vaughn & Jacquez, 2020:15). The researcher not only gives structure to the team's structure and its members but also assists in directing co-researchers through processes inside the research team. We no longer perceive the participants in collaborative, participatory action research projects as a closed group with fixed membership in light of Habermas' critique of the social micro-subject; instead, we perceive them as an open and inclusive network in which the researcher can participate as a contributing co-researcher (Kemmis et al., 2017:285).

3.2.9 The relationship between the researcher and the co-researcher

In PAR, interactions between the researcher and the co-researchers are centred on power and relationships. Instead of treating co-researchers like things, the researcher should see them as people who offer room for development (Baum, MacDougall & Smith, 2006:854). Through a participatory method known as PAR, people can examine and reflect on their knowledge, understandings, and actions; as a result, this study is carried out by participants on themselves rather than by others on participants (Nelson, 2017:4). Nelson (2017:5) adds that by involving various people, PAR reflects, gather, and bring theory and practice. To promote healthy dietary practices through a school food garden, practitioners and students are at the centre of the research study. They are allowed to participate in its solution-finding process actively.

3.2.10 The research site

An early childhood care and education centre in Mkhondo, in the province of Mpumalanga, served as the study's research location. The ECCE is situated near a farm. The Gert Sbande District Municipality of the province of Mpumalanga contains the Mkhondo Municipality, which includes Mkhondo Town. The area was picked for the study because it is believed to be typical of provincial rural settings. North of KwaZulu-Natal in the eastern region of South Africa, Mkhondo has a border with Swaziland and Mozambique. 6.5% of South Africa's land area is made up of it. More than 60% of Mpumalanga's population resides in rural areas.

In comparison, 36% of the province's economically active population is unemployed (Kgosiemang & Olade, 2017:21). A small town surrounded by fields and two townships (Ethandukhanya and Ajax) with a combined population of about 189 036 make up the resource-constrained settlement of Mkhondo (Masilela et al., 2020:12). Every day in the morning, practitioners frequently travel from Mkhondo town to the rural schools and ECCEs. Communicating critical emancipatory research in the subject area's setting is appropriate. According to Msimanga (2017:124), CER is essential in the academic environment because it promotes communication between teachers/practitioners and

learners. The Mkhondo Circuit ECCE received the invitation from the co-researchers. Given that PAR opposes such tendencies, the co-researchers were developed through advice-giving rather than instructional dialogue (Kid & Kral, 2005:190). The invitation made clear the purpose of the study, its title, and the involvement of the co-researchers. Twenty students and two practitioners were asked to take part in the study. The consent forms were completed by a principal and a few local farmers who participated in the study.

3.3 GAINING ENTRY

Gaining access is one of the fundamental tasks associated with conducting fieldwork for a research study, according to Shenton and Hayter (2016:223), involving both securing entry into a specific organization and making sure that people connected to it, such as employers, will serve as informants. A parent signed a consent form allowing their 4-year-old child to participate in the research because they were too young to sign an assent form. The steering committee also signed their consent forms. The Department of Education Circuit Manager signed the consent form allowing the researcher to conduct research in the ECCE in the Mkhondo Circuit. The researcher established a working connection with the ECCE representatives (principal and practitioners) by including them in developing the plan to use a school food garden to promote healthy dietary practices. According to Rothman and Thomas (1994:29), cooperation fosters a sense of ownership of the investigation by partnering with individuals who can ease access.

3.4 CREDENTIALS AND ROLES OF THE RESEARCH TEAM

The functions of co-researchers as coordinating team members are covered in this section. The larger population was selected based on the needs discovered during the investigation. Only the coordinating team is emphasised in the part below, which includes ECCE students, practitioners, community farmers, the principal, and the researcher.

3.4.1 The study coordinator

The function of the researcher has already been described (see section 3.2.7). But I clearly outline my responsibilities as a study coordinator, emphasizing my precise role in this research. I led the study team and worked with the other team members to ensure everything ran properly. My job was based on CER and PAR terms. After receiving my conditional ethical clearance, I called the first meeting with the steering committee and the other co-researchers. During this meeting, all of the expectations for the research were discussed, the tasks that needed to be completed were provided, and the entire research team held meetings. Data was produced by taking pictures and writing during discussions.

3.4.2 The practitioners

The two practitioners were requested to participate in the study to take a proactive role in developing a plan to use a school food garden to promote healthy nutritional practices. The practitioners are significant in the study because they will bring their experience to the classroom and share the knowledge they learned from the study. Research encourages personal growth and development in both individuals and groups. Two practitioners are included in one class of the research. The oldest practitioner in the school is Mrs X, who has been teaching in the ECCE for 23 years and has a level 1 in ECD. Mrs Y has been teaching in the same ECCE for 15 years and has a primary teacher's diploma and a level 4 in ECD. Including both practitioners is justified because Mrs X has a background in agriculture, and Mrs Y has extensive experience working with children.

The participation of the professionals promotes networking and cooperation (Hlalele & Tsotetsi, 2015:154). Engaging educators in research enhances their teaching skills and the learning environment in particular institutions.

3.4.3 The principal

Mrs M, who has worked collaboratively with the teachers at the ECCE for the past 20 years while teaching at the school, is the ECCE's principal. She has worked in education for ten years, including two as a principal and eight as a departmental head. I found that Mrs M is also a very significant individual to be part of the co-researchers because she is a hard worker, innovative, and constantly willing to learn new things. The following qualifications apply to the principal: Natural sciences and agriculture specialists with a Senior Primary Teachers' Diploma, an Advanced Diploma in Management and Leadership, and a BED-Honours Degree in Management.

3.4.4 Learners

Twenty ECCE students were a part of the research team. They range in age from about four years old. The study's participants' students' ability to think critically and follow a healthy diet depends on their engagement. The researcher believes strongly that learners should be a part of the study team. There were appropriate consultations. The learners' parents signed the consent forms and were present when their children read and reviewed the assent forms. The researcher saw that the students were told about study ethics, anonymity, confidentiality, and safety from harm in front of their parents.

Additionally, it was made clear that participants could stop at any time if they felt uncomfortable participating in the research. When reporting on the research, pseudonyms were utilised rather than the students' true identities. Students participated in the research by helping prepare and maintain the school food garden and expressing an interest in knowing when the veggies would be ready. According to PAR, people who will be impacted by the study's promotion of healthy nutritional behaviours through the usage of the school food garden should be included (De Vos, Strydom, Fouché & Delport, 2015:354). Because the study's results influenced them, the study's participants recognized that the learners would also experience its results, and as a result, their participation in the study might give them a sense of ownership over the conclusion.

3.4.5 Parents

The twenty learner's parents were primarily unemployed; many were from deep rural areas, and others were from Swaziland. As a result, their children were not eligible for social hand-outs because their parents lacked identity documents, which suggested their kids lacked birth certificates. They were overjoyed to collaborate with the university and the other research team members. The parent's signature on the consent form authorized their children to participate in the study team. The parents agreed to let their kids spend two hours after school participating in the research. The assent paperwork for the children was translated into isiZulu in front of the parents.

3.4.6 The community farmers

Two community farmers participated in the study; no other farmers showed up for our project, and those that did cite commitments because it was plough season. The two's participation would influence the study favourably because they knew about growing veggies and their significance for kids. In what to plant on the field, they may offer expert guidance. The two participants were a tremendous help to our research because they knew everything from planting to produce harvesting. The project's secretary was one of the farmers.

3.4.7 The School Governing Body (SGB)

The study team recognized that the SGB member, a parent of one of the ECCE learners, would be glad to serve as the chairwoman by naming her as the project's head. The SGB member spoke for the school's parents. The SGB's participation in this study was a natural method to inform the parents about our mission. Additionally, the involvement ensured the school's resources weren't misused. The project occurred after school and on weekends without interfering with instructional time.

3.5 DATA GENERATION

3.5.1 SWOT analysis

A SWOT analysis was conducted at the strategic planning session. The coordinating team used the SWOT analysis, which is referred to as a strategic evaluation tool, to evaluate the strengths, weaknesses, opportunities, and treatments to address the difficulties they encountered in promoting healthy nutritional practices by using the school food garden (Teele et al., 2020a:109). Resources, actions, responsible parties, and deadlines for achieving the goals were specified. In research, a plan can be created to overcome limitations and improve the effectiveness of the planning process when co-researchers discover any gaps. Community farmers were recognized as subject matter experts in agriculture because they knew what to plant and when to plant it. The practitioners, with their background in working with young children, were seen as a strength in the team because they collaborated well and showed great interest in their work. The SWOT analysis was the strategic instrument for promoting healthy dietary habits by utilizing the school food garden.

3.5.2 Strengths

The team was made up of individuals who brought a variety of strengths to the table as a result of their knowledge, competence, and experience, which significantly improved the study. It is evident from looking at the team members that it was made up of highly skilled individuals from a variety of fields, including agriculture and mathematics. Community members who had thoughts about what it would take to make the study successful were also included. The participants in the study were slender, flexible, and active. The students appeared to relish every moment spent outside, playing with the dirt and inhaling the aroma of the vegetables. When given instructions, the students listened well and exhibited a positive outlook. They also demonstrated an interest in learning how to create a school food garden—together with the local farmers, the principal—who also teaches agriculture—provided expert guidance on when and how to sow vegetables. The school food garden's principal, who majored in agriculture,

appeared to have a deeper understanding of the dynamics involved in planting through harvesting the vegetables. Even on vacations, the principal and the other ECCE teacher came to work at the school to tend to the school food garden. Because many students arrived at school hungry because their mothers were unemployed and did not receive social assistance, the teachers mentioned that they had a school food garden. The SGB member excelled at adding to our talks with her knowledge and experience of owning and managing a school food garden. The circuit management and the school principal both approved of employing the ECCE. The meeting's resources, which included writing supplies, were all available. Positive results in fostering healthy eating habits using a school food garden are strengths.

3.5.3 Weaknesses

Weaknesses were internal problems that made it difficult for a specific organization to achieve its aims. Vegetable growing takes much time and resources, including fertilizer and equipment. Since only very young children were involved in the study, a mechanism to guarantee that resources were used effectively still needed to be found. The area where water was most needed to cultivate the crops was far from the water supply tap. Due to other obligations, certain study team members occasionally missed meetings, and while the schools were closed, only the principal and the practitioners showed up for our meetings. This was a dilemma for us. When schools are closed, the buses that some kids depend on for transportation never run, making it challenging to get to the students. Another shortcoming was time, as most parents lamented that they attended church on Sundays and did their laundry on the weekends.

3.5.4 Opportunities

Since there were so few students, everyone took part in the study. The study was located in a highly beneficial area since the students could keep an eye on the plants as the school food garden took shape. If the study is successful, children, professionals, ECCEs, and the community at large will all have better eating habits. Everyone should

adopt healthy eating habits thanks to this study. Intending to create a plan to use the school food garden to promote healthy dietary practices, practitioners and students had the chance to collaborate. The students had the opportunity to express their concerns about what they saw as difficulties during the preparation and taking of the exam during this procedure. All study participants were able to learn from this study the value of healthy eating practices.

3.5.5 Threats

The issue of power between practitioners and learners was one of the topics during the research process. The expectation that practitioners were superior to learners and the focus placed on respecting adults was problematic because, although instructed to ask questions at the outset of the study, the learners occasionally hesitated to do so out of fear of upsetting their teachers and parents. The study used portable equipment; therefore, theft could be a significant concern and impact the study's outcome. Encouraging good eating habits through a school food garden was first established. Thus it might provide a threat to the practitioners who needed to adjust to the technique that needed to be used throughout the year. Lack of financing was also a problem because when we conducted research, some people occasionally complained of hunger if we spent a lot of time at school.

3.5.6 The process of data generation

This section will detail the process that needs to be followed while generating data, utilizing PAR as a set of rules. Data were created, and meetings and observation sessions with the co-researchers were organized, all during the conversations. The data were coded following the study's goal: to develop a plan to encourage healthy eating habits using a school food garden. The data was jointly produced by the co-researchers, which allowed the research's goal to be achieved. Theoretically, the research is supported by critical emancipatory research, which emphasizes bias and oppression as essential factors in power-sharing with PAR. There will be diversity

among the team members and co-researchers. Thus it needs to be considered (De Vos et al., 2015:17). Mahlomaholo (2009:225) elaborates on the gender and age distribution of the co-researchers, which promotes the efficiency of data generation.

3.5.7 Instrumentation methods and techniques employed in generating data

Since the use of instruments for data collection during research is a delicate issue, a strict protocol must be followed, and the co-researcher's consent must be secured during the relevant conversations. Discussions, the use of images, written material, and data that had been recorded were used to generate the data. The voice recordings were required for analysis, and authorization to record the discussions was asked and granted (Teele et al., 2020a:109-110). The audio recordings were valuable for subsequently listening to all conversations with research collaborators. Researchers are expected to pay attention to recordings and take notes. Significant phrases for the study will be recorded, transcribed, and categorized following the rules.

3.6 STRATEGIC PLANNING

The strategic plan is a set of documents that outlines the steps that must be taken to accomplish an organization's goals effectively and efficiently.

Table 3.1: Action Plan

Activity	Responsibility	Monitoring	Evaluation	Time frame
Phase of preparation, first planning meeting	Coordinator of the study	Coordinator of research	Attendance, discussion and creation of the team's rules and action plan	45 minutes meetings from 20 August-18 October every fourth night.

Below is a description of the anticipated priorities for the study and the proposed course of action for each meeting. According to Shozi (2018:67), the study objectives include priorities.

3.6.1 Priority 1: YouTube video (the benefits of a school food garden)

Table 3.2: Priority 1

Meeting	Responsibility	Activities	Time frame	Monitoring
2	Principal (M)	target setting	35 minutes	Watching the YouTube video by all co-researchers
2	Practitioner (Mrs X)	Identifying the challenges of promoting proper eating habits	35 minutes	Response by co-researchers
2	Practitioner (Miss Y)	Formulating a research question	20 minutes	Inventive thinking by the researcher

The co-researchers began by watching the video and analysing the current situation, identifying the poor eating habits and determining whether this might be improved. The school has been working to encourage learners to eat fruits and vegetables for years, but they were unaware that there was a school food garden in the schoolyard, the principal said in further explanation. Based on what the principal had indicated, the team determined whether or not the school food garden was necessary. The shared starting point for the co-researchers was their desire to apply the strategy to encourage healthy nutritional practices by deploying an SFG. At the conference, the research question was also developed. The team's method for tackling problems was the PAR cycle. In the middle of the video, one parent asked the other co-researcher to pause it as she wanted to mention something important that she had observed during the viewing.

Mrs Green further mentioned that:

> *"In the video, no learner seems to be bullied or not doing anything; they are all busy in the garden and seem to be very happy as all their faces are smiling."*

When Mrs Green was busy talking, learners started moving up and down the class, the others began fighting, and the practitioner separated them. So it is evident that when learners are bored, they do things that keep them busy; if only they were engaged in the garden like the learners in the video, they were to behave and sound happy.

3.6.2 Priority 2: Movie about promoting healthy nutritional practices through the use of a school food garden

Table 3.3: Priority 2

Meeting	The person facilitating the conversation	Activities	Time period	Taking note
3	Mrs V (parent)	Identifying difficulties	1 hour	The whole team
3	Mrs W (chairperson of the SGB)	Looking at the components of the solutions	1 hour	The whole team

In meeting 3, the difficulties were talked about. As this was a discussion meeting after watching the movie, difficulties were discussed in groups since this was a discussion gathering, and each group then gave them for further clarification. The groups then brainstormed the solutions to the challenges raised. The team worked collectively, harmoniously and equally.

After watching the movie, Mr V commented:

> *"If only we as parents don't choose what to pack for our children's lunchboxes, seemly the government needs to have a policy for all schools of a healthy lunchbox."*

Researcher: *"What was the difference from today's movie as compared to the YouTube video?"*

Muphe: *"The movie clearly shows how important is to eat fruits and vegetables, and the benefits are clearly seen in the movie, as those that doesn't eat fruits and vegetables seem to be sick."*

Mrs White stated that seemingly fruits and vegetables are a solution to all when practising proper eating habits.

Mr V stated that the learners eating sweets and snacks are coughing, and others are vomiting, whereas those eating fruits seem to enjoy every minute of their time.

3.6.3 Priority 3: Invite the circuit manager and the expert from the Department of Education on growing fruits and vegetables (A workshop will be conducted)

Table 3.4: Priority 3

Meeting number	Person facilitating the conversation	Activities	Time period	Taking note
4	Principal (Mrs M) and the expert from the Department of Education	First, recapping our last meeting and discuss favourable conditions for the plan to be effective.	1 hour	The whole team
4	Circuit Manager (Mr B)	Discussing the threats to the strategy.	1hour	The whole team

After the constructive workshop by the circuit manager and the expert from the Department of Education from the agriculture section, the co-researchers seemed to have enjoyed it. They followed what was discussed in the workshop. Mr H commented by saying:

"We really appreciate having information from highly respected people that we don't know, and we really promise that proper eating habits will be practised daily."

Mr V stated that as soon as they leave, they will start their own backyard gardens and support the school in preparing the food garden.

Mrs M, the principal, also thanked the two guests and promised a practical school food garden that would supply fruits and vegetables daily to the learners and give them a surplus to eat at home.

In closing, the SGB member also commended the speakers and said the information about taking five servings of fruits and two vegetables per day would not be taken lightly. Also, they will support the school financially to run a functional school food garden.

The issue of collaboration was raised during the discussion. Teachers were also warned to refrain from having an attitude towards school food gardens as they are the ones that need to take the lead for the school food garden to be successful.

3.6.4 Priority 4: Parents meeting about the awareness of promoting healthy nutritional practices through the use of a school food garden

Table 3.5: Priority 4

Meeting	Person facilitating the conversation	Activities	Time period	Taking note
5	SGB Chairperson (Mrs W)	Recap on our previous meeting, people gave feedback about what more they know about SFG and discussed the evidence that the school food garden does enhance proper eating habits indicators by the whole group	2 hours	The whole group

After the parents' meeting, the co-researchers discussed the assignment given to each member to research how other local schools used SFG at their most recent meeting. Still, it wasn't their final one to promote healthy nutritional practices. All points were noted by the team's secretary and discussed afterwards. Parents were given time to ask questions where they felt they needed clarity. Mr Blue said, "Today I can conclude that education is key, as there were things that we were doing as a community not knowing that it affects the health of our children, but thank you so much for such a constructive workshop."

Mrs Navy responded by saying knowledge is power, and she promised that they hope this will not end today to involve them as parents and other stakeholders at school when doing things that will benefit their children.

3.6.5 Priority 5: Community farmer donation of seedlings of vegetables and fruits

Table 3.6: Priority 5

Meeting	Person facilitating the conversations	Activities	Time period	Taking note
6	Parent (Mr K)	Recapping the topic from the prior meeting and the strategy-forming process.	3 hours	The group as whole converses and brainstorms.

The study group devised a plan to promote healthy nutritional practices and planted seedlings of vegetables and fruits. The learners were seen enjoying fruits during their lunch and not buying sweets and snacks as they did at the beginning of the study.

3.7 DATA ANALYSIS

Critical Discourse Analysis (CDA) was used to analyse the data. The main focus of CDA research is how text and language in social and political contexts support, reproduce,

and oppose the exploitation of societal authority, dominance, and inequality (Teele et al., 2020a:109; Wodak, 2013:1; Van Dijk, 2008b:99). The use of CDA in this study is of the utmost importance because it will aid in the analysis of the spoken and written words and because CDA necessitates a relationship between textual and verbal interaction properties that are crucial in the modes of power relation issues, justice, economy, race, class, gender, education, and religion (Mirzaee & Hamidi, 2012:183). Examining the texts used can help one understand health promotion policies. According to Jørgensen and Phillips (2002:67), CDA focuses on how discourse systems legitimize, mirror, or oppose social power structures. Researchers from CDA share Foucault's dialectical perspective on discourse, believing that it is both socially moulded and socially constitutive (Johnson & McLean, 2020:3).

3.7.1 Historical origins of Critical Discourse Analysis (CDA)

Following a brief conference held in Amsterdam in January 1991, CDA as a network of researchers began to take shape in the early 1990s. Van Dijk founded the journal Discourse and Society (1990) and debated theories of critical discourse analysis with Fairclough, Kress, Van Leeuwen, and Wodak with the assistance of the University of Amsterdam (Wodak & Meyer, 2009:3). According to Elsharkawy (2017:3-10), CDA's roots are in classical rhetoric, text linguistics, sociolinguistics, applied linguistics, and pragmatics, and some of its ideas may be found in Habermas. The critical theory of the Frankfurt School before World War IIThe co-researchers will understand the study's objectives, which aim at designing a strategy to promote healthy nutritional practices through a school food garden. Because CDA can identify instances of discursive prejudice in transcripts and indicates opposition to unethical and inappropriate social superiority relationships among co-researchers, it was used in this study.

Critical linguistics and critical discourse analysis are frequently interchangeable (Elsharkawy, 2017:4-5). Since CDA is user-friendly and emphasizes that no single language is the master of others, it was chosen to be employed in the study. The purpose of CDA is related to participatory action research and critical emancipatory research, both of which examine power dynamics in communication processes.

3.7.2 Three dimensions of CDA

Three levels of the transcript, discursive practice, and social structure are used to apply CDA (Fairclough, 1995:97). Below is a detailed discussion of the three levels.

3.7.2.1 Textual analysis

In a broad sense, Fairclough (1995:76) defines text as the discourse component of social events (not just written but also spoken interaction). Social practices, the mediating forms between social events and social action, which include social links, social identities, and social topics, are taken into consideration when interpreting texts concerning other parts of social events and social structures (Elshakawy, 2017:13). Each word in a phrase should have its meaning, grammar, style, and flow, according to Mahlomaholo and Netshandama (2012:51). The goal of textual analysis is to reveal organizational injustices that co-researchers portray in their engagement with the program (Khumalo, 2018:153). According to Mullet (2018:117–124), the tolerability of words in a sentence relates to appropriateness to the idyllic situation and how co-researchers see text. According to Fowler (1996 in Mceleli, 2019:198), macro proposition, rhetorical devices, thematic patterns, and lexicalization are all part of textual, linguistic analysis that shows how ideological and political interest is transformed into social reality. According to Barnard (2006:109), the media primarily uses spoken and written word analysis, which calls for cooperation and coherence. The researcher must put the spoken and written meanings of the words in the school food garden in the context of that text to comprehend and interpret them (Okot, 2007 in Mceleli, 2019:199). Using all available agricultural resources or individual help, promoting healthy eating habits through the use of a school food garden aims to foster constructive teamwork among co-researchers. According to Khumalo (2018:153), clarifying and distributing refers to the process through which the flow of information is directed toward perfect comprehension. When promoting healthy dietary behaviours through a school food garden, textual analysis entails interpreting language or images in the text to gather information.

3.7.2.2 Discursive practice

Like interaction in the text and interaction view discourse, the discursive practice dimension describes the nature of the processes of text production and interpretation, for instance, which forms of discourse are used and how they are mixed (Fairclough, 1995:4). According to Shozi (2018:76), discourse is a catch-all phrase that refers to all uses of language. Khumalo (2018:154) emphasizes that part of the research is to delve deeply into the team members' spoken statements.

3.7.2.3 Social analysis

According to Mceleli (2019:200), social analysis is the process of looking at a social issue, trend, or problem to bring about change. One way to do this is by using a school food garden at an ECCE to promote healthy nutritional practices. According to Shozi (2018:77), “the social level in CDA involves modification in social practices and in the interacting social practices, how social practices are expressed together in the formation of social arenas, affiliations, and in relationships among fields, societies, and groups.” Social analysis is a crucial instrument for implementing agriculturally based health promotion programs.

3.8 VALUE OF RESEARCH

The research team gained knowledge from the study, which also helped them better understand healthy eating habits and why some people choose to eat poorly. The research serves as a spark for resolving the most critical global problems, forcing everyone in the study team to use critical thinking and impartial judgment based on facts rather than opinions.

3.9 ETHICAL CONSIDERATION

Once the ethical approval from the University of Mpumalanga and Mpumalanga Department of Education was received and the principal of the ECCE granted permission, the researcher entered the ECCE with the co-researchers and engaged in data generation. The researcher and team adhered to the established rules and ethical procedures to ensure successful data production. The researcher adhered to the following principles to preserve the study team's anonymity and secrecy: voluntary involvement, informed consent and assent forms, safety during participation, and maintenance of privacy and confidentiality. Team members were told they might revoke their consent at any time if they felt uncomfortable participating in the study. The study's participants were informed that there were no rewards for participating.

Additionally, images taken by participants and other researchers were used to produce data. Pictures were used, and people’s identities were hidden. The team members signed a consent and assent form after receiving assurances that reports and findings would be shared directly with the co-researchers during our meetings and that passwords would be used to secure the data and voice recordings. Last but not least, no participants were harmed in any manner, and respect was the rule.

3.10 CONCLUSION

This section described PAR as a methodology for producing data, with several team members having varying perspectives. The study's priorities, the SWOT analysis, the priorities set following the study's purpose, and the team's qualifications were all described. Additionally, CDA was discussed, along with ethical issues and the worth of study. It also covered how the study related to PAR, CER, and CDA.

CHAPTER 4 :
DATA ANALYSIS, PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION OF RESULTS TOWARDS PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN

4.1 INTRODUCTION

The project developed a plan for a school food garden at an ECCE facility in the Mkhondo Circuit to encourage good dietary habits. This part examines data, presents findings, interprets, and discusses the findings in light of the plan to use a school food garden to encourage healthy eating habits. The analysis first organises the data according to the study's goals to support the necessity for developing a plan to promote good eating habits by utilising the school food garden. According to the study's five objectives, an analysis of the obtained data was prepared. Every objective is unpacked in terms of recognized relevant constructs that amount to it, which emerged from the literature review, and invent proper subheadings. An appropriate opening discussion follows intending to set out good practices regarding policy-related issues, theory and previous research findings for each sub-heading.

Then, it will be possible to access the empirical data through written text, images, and situations. The data will be analysed and contrasted with best practices, such as legal frameworks, theories, and earlier study results. Three levels of the texts' deeper meaning will be examined using CDA: text, social structure, and discursive practice (Fairclough, 1995:97). Mahlomaholo (2012) claims that CDA is used to grasp a deeper understanding of the text that goes beyond sentence structure. Van Dijk (2008a:85) emphasises that CDA makes societal injustices visible. The literature, as mentioned above overview is then updated with pertinent extracts. Through the use of critical emancipatory research, the extracts are analysed. This procedure will be repeated using PAR for all the objectives.

The section's conclusion presents the significant findings to build the envisioned plan to promote healthy nutritional practices by utilising the school food garden.

4.2 IDENTIFICATION OF THE CHALLENGES INHIBITING PROPER EATING HABITS

This chapter provides information on essential factors while developing a plan to encourage healthy nutritional behaviours. Before forming the coordinated team, members met and shared their struggles with advancing good eating habits. Before the co-researchers intervention, the members of the primary target acknowledged problems with stress, social pressure, a lack of gardening expertise, an ignorance of organic foods, and a lack of awareness about harmful foods.

For a better understanding of these difficulties, see the discussion below.

4.2.1 Stress inhibiting proper eating habits

The stress theory is a social theory that explains observations about stress and an aspect of social life (Ingoldsby, Smith & Miller, 2004:148). The theory presents both the theoretical basis and the rules used to management of stress. Research indicates that there is a clear link between stress and appetite: it makes emotional eaters who constantly eat (Choi, 2020). Signs of stress and anxiety in children often show up as physical or behavioural changes (Lee, 2020:1) and (see 2.5.1.1; Dr Daisy & Co., 2020:6). Stress that left unchecked can contribute to many health problems, such as obesity (see 2.5.1.1; WHO, 2020c). Studies indicate that stress leads to stronger feelings of anger and irritability, withdrawing from others and makes it harder for children to focus during the school day (see 2.5.1.1; Speedie & Middleton, 2021:351).

The statistics showed that many children were experiencing stress before this study; this was evident at our first meeting when the learners were busy moving up and down the class, being bullied, a group of learners not playing during break and misbehaving in class.

Figure 4.1: Learners misbehaving in class

Figure 4.2: A practitioner separating learners that were fighting in class

Figure 4.3: A group of learners not playing (during break)

Figure 4.1 shows learners misbehaving in class, as this is a sign of stress, Figure 4.2 shows a bully learner who is fighting the other, and the teacher is trying to separate them. Figure 4.3 shows a group of learners not playing during their break while others are playing with their peers.

The empirical findings demonstrate that learners' behavioural changes, such as moodiness, aggression and short temper, are signs of stress before introducing this study. When we discussed good eating habits during our first discussion meeting, this became clear that the majority of individuals don't know when or what to eat, Mr H made plain in his statement. Mr H emphasised that:

> *"Before he attended this group discussion, he did not know about the harm we cause to our bodies when we eat sweets and junk foods for enjoyment and when overeating when we are stressed."*

Taking into consideration that CER guides this research as the theoretical framework, children seem to be powerless over their lives because if only they were occupied with toys in the class and also busy titling the garden, they were not going to misbehave or feel lonely when around their peers if outside the class. After watching the YouTube video about the benefits of school food gardens, the co-researchers discovered that the participants had to be part of the solution, which aligns with PAR. The practitioners agreed that they had learnt a lesson that a school food garden is not only for academic achievement but it is also for promoting healthy nutritional practices.

4.2.2 Social pressure towards promoting healthy nutritional practices

Young children look up to their parents and instructors, and they tend to think that everything they do is right. Thus, parents and teachers are expected to provide an excellent example for them (see 2.5.1.2; Midigo, 2019:19). The social influence hypothesis is a psychological theory that discusses how people are more likely to act in ways that they perceive to be the norm. Additionally, it asserts that people frequently adapt their behaviour in response to those around them, with those closer having a more significant influence than those farther away (Williams & Turner, 2022:6). Despite

section 28 of the Bill of Rights in our Constitution (RSA, 1996) explicitly stating that every child has a right to essential nourishment, parents sometimes lack the time or resources to prepare appropriate food for their children, which is a significant concern (see 2.5.1.2).

The social modelling theory asserts that modelling techniques have an impact on behaviour (see 2.5.1.2; Wills, 2022:54). Children's eating habits can be influenced by social media sites like Facebook, Twitter, and Instagram, according to researchers at Aston University in the UK (see 2.5.1.2; Green, 2020:4). If learners see their friends posting images of the food they eat on social media, they will assume that it is okay for them to do the same so they would double the serving size if their friends shared pictures of five different items, which would make them overeat (Green, 2020:4-7).

Figure 4.4: Learners' packed lunchboxes

Figure 4.5: Learners buying snacks and sweets from the lady selling at school

The empirical data obtained during observations and discussion meetings at the research site show that the acceptable practice of healthy eating habits contradicts the superior practices provided by researchers and policies. Figures 4.4 and 4.5 provide proof for the claim, as mentioned earlier. The participants' ongoing desire for sweet snacks and foods served as evidence of this. It was brought up in the meetings as a difficulty that makes promoting healthy nutritional behaviours more difficult than it should be. According to the research, practising healthy eating habits is challenging because of poverty and cost. The learners looking at what their peers buy them also opt for snacks and sweets. After the parents meeting about the awareness of proper eating habits, parents realised they were deciding what to pack for their children, which seemed a more significant challenge. PAR reflects, collects, and brings theory and practice by involving different participation of different persons, so the meeting was of great help to the school, parents and learners.

During lunch, Violet and Silver showed that they enjoyed purchasing what they witnessed their companions purchasing:

> *"We like buying snacks with our friends because they are nice, cheap and easily accessible because the lady selling them is inside the school premises."*

CER is founded on principles like transformation, emancipation, and social justice in this study and is relevant to reinventing healthy nutritional habits (Ndaba, 2020:45). Children will consume unhealthy food if society as a whole doesn't.

4.2.3 Lack of knowledge about healthy food

There is rising evidence to suggest that bad dietary choices result from ignorance of healthy foods, and teachers' understanding of healthy eating may improve their learners' quality of healthy eating. Children in the ECCE age range model their eating habits after those of their peers, according to a study published in the journal Child Development (Faye et al., 2019:511). Parents in Kenya, South Africa, and the United Kingdom send their children to school with food that doesn't adhere to dietary guidelines (Amiri, Geravandi & Rostami, 2021:196; Kinoti, 2019:3; Midigo, 2019:19). Most

unhealthy foods are marketed to children, so the government must step in by limiting these marketing and promoting healthy eating instead (Araya et al., 2020:98). Children are unaware that non-communicable diseases are caused by eating bad foods (see 2.5.1.4; WHO, 2021). According to a survey conducted in the North-West province, children between the ages of two and five most frequently consume bread, chips, margarine, Vienna sausages, and other processed meats (Brits, 2022:10). Findings in Kenya revealed that the majority of households did not follow the guidelines for a healthy diet; additionally, despite being higher than in South Africa, vegetable and fruit consumption in Kenya is still low and is only purchased if there is money left over after the purchase of staple foods (Amiri et al., 2021:198). A healthy diet includes a variety of fruits and vegetables and no trans-fats (WHO, 2021).

You might live longer if you eat healthy foods. It helps to attain and maintain a healthy weight, stimulates brain development and healthy growth, and reduces the risk of diseases (WHO, 2021). “Health is real wealth, not pieces of gold and silver,” stated Mahatma Gandhi once. So, maintaining a healthy diet results in a life filled with energy; everyone has to eat well. The co-researchers acknowledged that healthy eating does not exist. The team watched the learners during break periods to gather more information. The crew then interacted with the learners. Most learners stated that they appreciated snacks and sweets because they were tasty and had no other option because there was only one lady selling snacks, sweets, and sweetened beverages on the school grounds. As part of the data generation process, observations and taking photographs of the learners’ eating were done. Additionally, Mrs M's vocal expression at the research location confirmed that she was unaware of nutritious meals, which was further demonstrated by observation:

> *“Learners, you can go out for your break to buy snacks and sweets.”*

From the above extract, the phase ‘buy snacks and sweets’ clearly shows a lack of knowledge about healthy eating habits.

Figure 4.6: Empty contents of the snacks and mageu that were eaten by one of the learners

Figure 4.7: The learners having snacks, sweets, sweetened drinks and biscuits to eat for their break

Figure 4.8: The learner's meal provided by the ECCE, showing other plants with soup and rice only and the others having pumpkins, rice and soup

CDA is about analysing discourse, and researchers aim to understand social groups; by the pictures above, we can conclude about the eating habits of the learners. CER is about equity and transformation. The learners are being depowered over their lives to do good because they do not choose the food they eat, but the school environment and parents do.

4.2.4 Lack of gardening skills

Children should learn gardening skills to take care of the plants, eat the food they have grown, and learn about where fresh food comes from, according to FAO (2022b:45) (see 2.5.1.3). Last but not least, children do not understand the value of the garden (WHO, 2021). Lack of gardening skills among children is a problem that is seen around the world, which makes it challenging to promote nutritionally sound habits (see 2.5.1.3; WHO, 2021; Araya et al., 2020:2; DEFRA, 2020:10). Growing one's fruit and vegetables can improve accessibility to schools and homes and can also inspire youngsters to respect and enjoy garden produce, according to Chan et al. (2022:24-25). The WHO (2020a) reports that a school food garden improves the children's nutrition and acceptance of fruit and vegetables. The WHO (2020a:97) notes that learners need gardening skills for a unique opportunity towards better lifestyles and to foster a culture of good nutrition.

This wealth of information can be used to support school food gardens and better meet educational goals; this should get us one step closer to our goal of altering children's eating patterns and our perception of nutrition and health. Gardening ability is essential (see 2.5.1.3; Hoover et al., 2021:594).

It was mentioned in the discussions that one obstacle to promoting healthy eating practices is a lack of gardening skills. The literature asserts that it is challenging to train learners correctly on gardening policies equally and equitably when they lack gardening expertise or abilities.

For the duration of our meeting, while we were having a debate on gardening knowledge and its policies, one of the team members, Mrs D, said:

> *"We as the community don't know that it is important for children to have gardening skills; today's session has really been so helpful to us."*

Mr U added by saying,

> *"It really helps to have gardening skills because you will know when to plant this and not to plant that."*

Figure 4.9: The garden's cabbages are brown instead of green, planted the wrong time: ready in midsummer

The claims made by the co-researchers demonstrate how crucial gardening skill is to start one's gardens successfully. The school food garden appears to be neglected by the ECCE; after we intervened to plant various fruits and vegetables for the school, the picture above shows dead cabbages. The quotes, as mentioned earlier, demonstrate the need for all interested parties to pay attention to promoting healthy eating habits. The CER theoretical framework served as the research's lens. CER is one of the most effective ways to foster a positive academic identity and subvert distorted consciousness (Mahlomaholo, 2009:225). CER talks about social power. The study

demonstrates that the community's lack of gardening knowledge leads to unhealthy food consumption, highlighting the urgent need for a strategy to promote healthy nutritional practices.

4.2.5 Lack of knowledge of organic foods

According to studies, the high nutritional value of organic foods, such as the vitamins and calcium that are present in large quantities in fruits and vegetables, has increased demand for them both domestically and abroad (Green, 2020:6). It was determined that South Africa needed a national organic policy, although it hasn't been finalised yet (see 2.5.1.5; FAO, 2022a:60). One difficulty is that key figures in the government and educational establishments lack understanding about organic foods. Kenya has a national organic food policy (see 2.5.1.5; Ministry of Agriculture, Livestock, Fisheries and Cooperatives, 2020:3-21). The idea of planned behaviour demonstrates a positive association between subjective and objective knowledge about organic foods (see 2.5.1.5; Fynn-Green et al., 2019:68).

Figure 4.10 shows conventional peaches and oranges; the learners will consume them during our discussion meeting. Few retail outlets sell organic fruits and vegetables, and in other places like Mkhondo, we don’t have such shops.

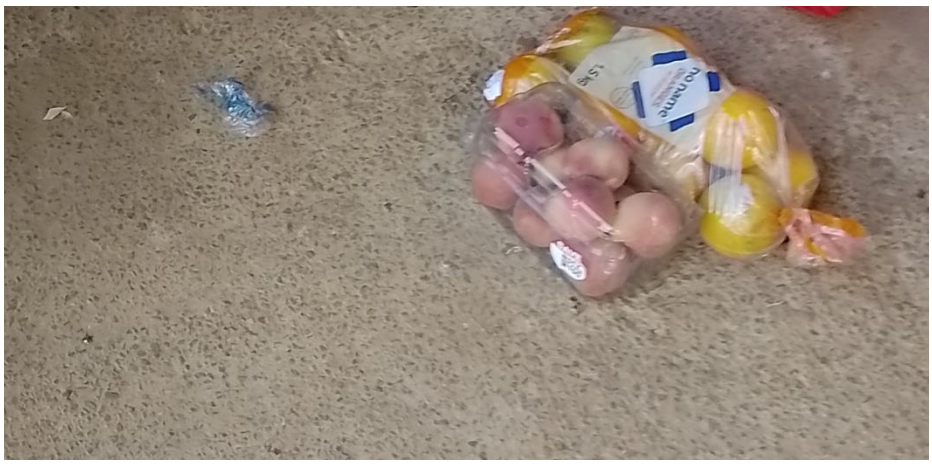

Figure 4.10: Bags of cheap conventional peaches and oranges

If we choose organic foods instead of conventional ones, we can overcome the difficulties we experience in encouraging healthy nutritional practices. Schools are the most significant settings for teaching healthy eating behaviours. The topic of organic food was brought up during our conversations to promote good dietary habits. Mrs A, one of the co-researchers, said:

> *"We now know the difference between conventional foods and organic foods, but the challenge is in our town, organic fruits and vegetables are not sold even at Pick 'n Pay."*

The statement above demonstrates the necessity for organic food in Mkhondo since it demonstrates that although people know it, it is unavailable in our little community. The findings of this study indicate that the public health department is unaware of the significance of organic foods. Contrary to CER, the coordinators believed it was in their utmost power to give the learners conventional fruits as they deemed cheap but not prolonging one's life span. The learners were not given a democratic opportunity to choose from organic and conventional fruits as they were powerless. CER views the world through the eyes of the participants, whom we need to transform from eating bad food.

4.3 SOLUTIONS TO THE CHALLENGES THAT AVERT THE SUCCESSFUL PROMOTION OF HEALTHY NUTRITIONAL PRACTICES

This section addresses answers to problems connected to developing a plan to support healthy eating habits by utilising the school food garden, as discussed in section 4.2 of this chapter. The following are the elements that could react to the outlined challenges.

4.3.1 Responding to stress that impedes proper eating habits

When one is under stress, fruit and vegetables are crucial since they are satiating, which means they can fend off unhealthy appetites and reduce tension; raw fruit and leafy greens are stress-relieving food powerhouses that can help control the cortisol level that leads to emotional eating (Malik, 2020:20). Children develop good eating

habits when they play with soil (see 2.6.2.1). Both academic writing and empirical studies have identified stress as a problem because it inhibits healthy eating behaviours (see 2.6.2.1). During the conversations, it became clear that the learners needed to halt or reduce stress eating and emotional eating. In South Africa, a food and nutrition policy aims to ensure household food and nutrition security and assist people in determining appropriate dietary intakes to satisfy their needs at various stages of life (see 2.6.2.1). Behaviour change is discussed in theories of change; people under stress need to quit overeating and choosing unhealthy foods as a form of self-medication (Aromatario et al., 2019:33).

Throughout the discussions about the difficulties, the issue of not understanding stress eating came up. The learners were then taken out to the garden to tilt, and they showed signs of enjoying what they were doing. The children seem to be no longer worried. Even the ones that were not playing during the break were seen in the garden happy.

Figure 4.11: Learners are seen happily preparing the garden for planting vegetables

4.3.2 Responding to social pressure that inhibits proper eating habits

It is crucial to involve parents in the effort to provide healthy eating. Therefore, it is appropriate to concentrate on prevention efforts in early infancy, when health-promoting habits can be established. In the UK, several non-medical techniques and interventions have been presented to tackle obesity (WHO, 2022a). The theory of planned behaviour aids in understanding why parents who claim to be motivated by the desire to give their children a healthy diet do not engage in certain behaviours that lead to Proper eating habits. Children are known to be naturally curious, and when exposed to nutritious food, they taste it and exhibit interest. Giving them a chance to participate in the school garden will pique their interest in fruits and vegetables (see 2.6.2.2).

Children's environments, including the media, culture, and family, significantly impact them. Therefore, it is essential to introduce children to various fruits and vegetables, complement them when they choose them, and ensure healthy eating by everyone around so that children can see it being done (see 2.6.2.2). When students participate in a school food garden, there is an increase in the number of fruits and vegetables available (see 2.6.2.2). The social influence hypothesis recognises that people have voluntary control, or the ability to behave based on their own choice or decision (Lim & Weissmann, 2022:8). Social influence, which includes how society tries to mould people's beliefs and behaviours, is a representation of how society affects the person (Lim & Weissmann, 2022:6). Social pressures sometimes have a good side (see 2.6.2.2). School lunches in England must always include one or more pieces of fruits and vegetables each day. One should interact with parents to produce practical effects of healthy eating habits.

Figure 4.12 below shows a lunchbox for a learner with fruits, and it shows that the parents are beginning to understand the importance of proper eating habits for their children. Figure 4.13 offers a parent meeting where we asked for a slot to teach the parents about appropriate eating habits.

Figure 4.12: A learner's lunchbox with fruits

Figure 4.13: Parents' meeting addressing the issue of proper eating habits

The importance of overcoming social pressure while encouraging healthy dietary practices was brought up in our conversations, and co-researchers offered the solution of taking charge of establishing our children's eating habits from birth. The primary remedy to the problems caused by inappropriate eating habits was provided throughout the discussions as the successful practice of instilling healthy eating habits in children while they are still young. The co-researcher (Mrs S) hints towards this as follows:

> *"We are pleased that in our place, through working together, unhealthy eating habits for both children and adults will be something of the past as from here, we will start practising what you were preaching to us about healthy nutritional practices."*

Mrs S's use of "We are glad" demonstrates the value of cooperating to develop strategies for promoting a healthy diet. The sentence mentioned above refers to the significance of handling social pressure constructively when advocating for appropriate eating practices. Not all social pressure is harmful (see 2.6.2.2). PAR engages people

and communities in the research process and helps them take action to improve various elements of their lives. Van Dijk (1998:61-63) contends that the best way to analyse discourse is to delve into a conflict's historical, ideological, or social context and its key players.

4.3.3 The solution towards awareness/ knowledge about healthy food

Fruit and vegetable-rich diets are associated with a reduction in non-communicable diseases. A child's health, development, and growth depend on their ability to eat well; when they do, they feel better and have more fun. The best course of action is to reprogram your child's taste preferences so that they start to seek healthier meals. The social constructivist theory contends that knowledge is emancipatory and liberating. The school food garden fosters greater feelings of love, understanding, and community, as well as greater food knowledge and a desire to try new fruits and vegetables (Garcia, Coelho & Bogus, 2017:7-8). The theory of healthy food encourages the use of cooperative, independent, and participatory processes (see 2.6.2.4). The nutrients one needs to stay healthy, feel well, and have adequate energy are found in healthy foods (WHO, 2020b). In the debates; it was determined that educating the public about nourishing foods is necessary to enable them to practise eating wholesome, nutritious foods.

Figure 4.14: The practitioner distributing fruits to learners

The researcher distributed the fruits to the learners to emphasize the importance of consuming different kinds of fruits and raise awareness that two types of fruits are needed by our bodies daily. Children were so happy after receiving the fruits, and even the quiet learners were seen happy enjoying them that others said it was their first time eating them. Our discussions in the meeting revealed the urgent need to instil healthy eating habits in children's early age. Mr N stopped the conversation at the meeting by saying:

> *"We are pleased as a community to know the dangers of not having knowledge about healthy foods."*

Mr G further held up:

> *"It will be a great investment in educating children and future generations about the dangers of eating unhealthy foods, which will have a great influx of positivity in promoting a healthy lifestyle".*

Miss Y opposed and said:

> *"Educating children about the dangers of eating unhealthy foods does not guarantee that they will live a healthy lifestyle and start eating healthy foods, and it is not guaranteed that school food gardens will be beneficial to schools and the children in the school."*

The above contradicting statements show that as much as others have been made aware of the dangers of eating unhealthy foods and how we can curb its effects, others still do not believe that it can benefit children, which shows that there is no awareness.

CER supports a transfer of power to children since it is for change. Healthy foods should be taught to children. Children's understanding and love of nutritious food will grow if they participate in school food gardens. According to the FAO (2019:97), eating well entails consuming various fruits and vegetables and developing wholesome new preferences and habits.

4.3.4 Having gardening skills is a solution to improving proper eating habits

Growing plants and being in contact with nature significantly impact general health, keeping in mind that young children have the most significant learning capacities. Children's senses and motor abilities are stimulated when gardening (see 2.6.2.3). Gardening expertise may lead to greater fruit and vegetable consumption. In addition to encouraging healthy ageing, resilience, adaptability, creativity, self-transcendence, and a happy outlook, gardening has a sizeable beneficial lifetime attitude and habit-forming effect (see 2.6.2.3). To create school food gardens that might enhance life, it may be helpful to understand why individuals garden throughout their lives and as a hobby. The ability to garden is essential for teachers and learners because it allows teachers to teach children diverse, profound lessons and healthy habits in addition to academic subjects (see 2.6.2.3). The ability to perform and design children-friendly outdoor and garden activities for children has improved through gardening (Laaksoharju, 2020:78). Teachers, learners, and parents who are proficient in gardening can help us overcome our difficulties in encouraging appropriate food practices. There is a need for gardening training to develop skills because schools are the most practical setting for promoting healthy eating habits. Throughout the conversation, the need for gardening expertise was raised as a potential remedy for successfully promoting good eating habits.

Figure 4.15: The practitioner and the learners in the green garden with maize and bananas that are about to ripen

In the above garden, the gardener and the learners seem to have gardening skills after the study; their produce and the garden's appearance are no longer the same as the first time before the commencement of the study. Indeed the study played a significant role in the school, as they can now plant promising produce, unlike the brown unattended to cabbages in the garden.

Several researchers believe that CER is when children's voices are heard in society; there is broad consensus that knowledge is co-constructed—a move towards realising young people's participation in gardening recognition and adaptation of the strategy.

4.3.5 Lack of knowledge of organic foods

Foods that have been grown without the use of chemicals are known as organic foods and are thought to be healthier than conventional crops. According to research, organic farming and food demand have dramatically increased in South Africa (Uhunamure et al., 2021:2). Since fewer people in South Africa fall into the upper-income levels than in the United Kingdom, the demand for organic food is naturally smaller. Organic sales in the United Kingdom climbed by 18% up to June of last year (Gschwandtner & Revoredo-Giha, 2021:36). According to Lim Tung (2016:13–20), numerous research have demonstrated that people who consume a lot of organic products frequently follow dietary routines that contain more fruits and vegetables.

Figure 4.16: A bag of organic apples

The theory of planned behaviour covers all behaviours that humans can govern with self-control. Everyone can consume organic food because it is the best and healthiest option. People should alter their behaviours and switch to organic foods since CER advocates for change. Organic foods complement nature, and consuming them ensures one eats healthfully and without chemicals. The claim, as mentioned above, highlights the value of organic foods in fostering healthy dietary habits. It alludes to the importance of eating organic foods, which emphasizes the theory of CER and that eating healthy is a societal imperative.

4.4 CONDITIONS ESSENTIAL FOR THE EFFECTIVE PROMOTION OF HEALTHY NUTRITIONAL PRACTICES

In this case, the researcher believes it is more crucial than ever to establish a collaborative and collective atmosphere to promote healthy nutritional practices; this determination's fundamental components are described.

4.4.1 Collaboration in promoting healthy nutritional practices

In this study, promoting healthy living is not just a health goal but a social necessity. All stakeholders should collaborate to create situations where healthy choices are the most convenient. Therefore, the only organised way to promote healthy living broadly is through a partnership between governmental, corporate, and social sectors. According to Fuhrman (2018:16), promoting better eating requires cooperation between manufacturers, retailers, and academic institutions of public health. In the UK, fewer healthy items cannot be placed in visible store doors due to new government legislation introduced in October. To achieve the goal of the study, collaboration is necessary for every intervention programme; additional collaboration is based on trust, democracy, understanding one's role in the study, trust, respect, and excellent communication, as well as the environmental factor. According to Taylor et al. (2017:237), school food gardens may help foster teamwork (Amiri et al., 2021:6). According to the principle of collaboration, people collaborate regardless of the authority and structure present in

their environment. More specifically, due to turn-taking, coherence, and how work is organised, team members impact one another personally and collectively. Stakeholder support helps all children participate and connect with regional fruits and vegetables in the UK, Kenya, and South Africa.

During our discussion, Mr Z interrupted our conversation by saying,

> *"Homes are sustainable because of collaboration, so even schools need to work collectively with different stakeholders all the time."*

Mr Z recognised the significance of collaboration and teamwork in society. Collaboration necessitates interpersonal and communication skills, knowledge, sharing and coordination (see 2.6.1). Van Dijk talks about the need for collaboration participation. In articulation, CER encourages collaborative engagement (Ndaba, 2020:54). When promoting healthy nutritional practices, we are expected to build a collaborative team. Coordination includes constructing, controlling and redefinition one's knowledge and participation skill (Fontana, Peverelli & Giacomazzi, 2020:86).

4.5 THREATS THAT MAY AVERT THE SUCCESSFUL PROMOTION OF HEALTHY NUTRITIONAL PRACTICES

In this instance, threats can mean factors that can hamper the strategy's success in promoting healthy nutritional practices.

4.5.1 Lack of involvement of different stakeholders in the school when promoting healthy nutritional practices

Gaining stakeholder support is crucial because if they are not involved in developing any programme intervention approach, they will never support it (Algaisi, 2018:263). People cooperate well with one another and share responsibility when work is shared. The effectiveness of healthy eating programmes may be increased if parents and teachers collaborate to develop a uniform strategy for improving food to prevent children from receiving conflicting messages, which is thought to reduce the effectiveness of

such programmes. A school food garden's effectiveness depends heavily on administrative support (see 2.7.1).

4.5.2 Lack of knowledge about ways of promoting healthy nutritional practices

According to Hoover et al. (2021:594), having adequate gardening abilities for teachers is crucial for a flourishing and long-lasting school garden. If instructors are skilled in gardening, school food gardens will offer a break from conventional learning environments, giving students an alternative means of acquiring essential skills, enabling them to have more hands-on experience lessons and develop healthy eating habits. According to DEFRA (2020:10), in the UK, for school gardens to be managed effectively, the subject must be taught by teachers who have the necessary training in the area, and courses should be made available for teachers who are already in charge of the school food gardens or wish to start a new one.

4.5.3 Learners' attitude towards promoting healthy nutritional practices

Learners agree it will be a waste of time because they must interrupt academic activities to squeeze in gardening time. Learners have negative attitudes toward the school food garden because they suggest that while working in the garden during school hours, they will get dirty and appear untidy (Legodu, 2021:10). According to Araya et al. (2020:45), there are misconceptions that the school food garden takes a lot of time, requires skill, and requires the selection of fruits and vegetables that are appropriate for the location. A threat arises if there is a lack of technical assistance when working in the school food garden (Skelton, 2020:98).

4.6 INDICATORS OF SUCCESS ON THE FORMULATED STRATEGY

For the success of the strategy to promote healthy nutritional practices, the indicators of success are highlighted as follows.

4.6.1 School food garden enhances proper eating habits

Understanding nutrition has a significant impact on children's eating habits, health, and willingness to try nutritious foods (Araya et al., 2020:18). A school food garden teaches children about healthy eating and diets and improves their behaviour (Laurie et al., 2017:98). As it promotes children's consumption of fruits and vegetables, a school food garden is an excellent intervention for promoting healthy dietary practises (Laurie et al., 2017:100). The school food garden encourages healthy eating practises because fruits and vegetables are ready-to-eat foods that require little work to procure (Maseko et al., 2019:23). Vegetables are quick and simple to prepare, making them highly convenient to eat even raw (Araya et al., 2020:19) Consuming fruits and vegetables, which are readily available for consumption, helps promote healthy eating habits (Li et al., 2022:312). Exposure to and involvement in a school food garden might boost learners' choice of healthy foods like fruits and vegetables over less nutritious options like processed foods and junk food (Johnson & MacLean, 2020:377-383). Children can learn how to cultivate healthy food for a healthy diet through school food gardens. They also feel connected to their responsibilities, ensuring a healthy lunch is delivered daily (Araya et al., 2020:26).

School food gardens are crucial for teaching learners about gardening principles and techniques, eventually enhancing household output for food and nutrition security (Laurie et al., 2017:186). Consuming fruits and vegetables helps learners focus and perform better (WHO, 2020b).

Figure 4.17: A learner carrying bananas for his lunch

The picture above brings evidence that the involvement of learners in a school food garden boosts their choice of healthy foods, as we can see the fruits that the learner has brought to school for lunch and the learners seem to have less interest in snacks and sweets after conducting the study. CER says that a child is powerless over their lives, but parents must choose the right food for them. Involving learners in the school food garden changes their eating habits for good, and they begin to be interested in fruits and vegetables; this is evident in what the learners bring to school for lunch.

4.6.2 Successful knowledge and skills to promote healthy nutritional practices

In addition to working together to address the problems caused by poor eating habits, parents, and children become aware of the need to cultivate a passion for fruits and vegetables (Mahmood, Barantes, Moreno, Manios & Gonzalez-Gil 2021:1138). Toward the end of our study, the eating habits of the various stakeholders improved, with the majority of team members mentioning having started snacking sensibly by consuming fruits and vegetables.

The study aided the Mkhondo community in understanding how critical it is for them to eat healthfully so that their children can also develop good eating habits. It will be crucial to instil in the children a love of produce and the skills necessary to raise it.

4.7 CHAPTER SUMMARY

In this chapter, data were analysed, and the results and conclusions on the plan to enhance the promotion of healthy nutritional practices were presented and explained; this was consistent with the research goals, as stated in Chapter 1. There were many data sources, including discussion meetings in which the co-researchers agreed that developing a strategy was necessary. When data were gathered, problems were recognised, remedies were explored, and favourable conditions, threats, and success indicators for promoting healthy nutritional practices were discussed.

CHAPTER 5 :
SYNTHESIS OF FINDINGS, RECOMMENDATIONS FOR FUTURE RESEARCH AND CONCLUSIONS

5.1 INTRODUCTION

The study aimed to develop a plan to encourage healthy eating habits by utilising a school food garden at an early childhood care and education facility in the Mkhondo Circuit. This part provides the study's background, the problem description, and the study's findings as they were attained concerning the objectives, which can be summed up as follows: conditions that are favourable to the strategy to promote healthy nutritional practices, potential threats to the strategy to promote healthy nutritional practices, challenges that obstruct proper nutritional practices, solutions to the challenges, and an indicator of success for the strategy to promote healthy nutritional practises.

The formulation of the approach, its effectiveness, and ideas for additional research are all provided in this part as well. Finally, the study's limitations are mentioned, and the conclusion briefly discusses the study's contribution to promoting nutritious eating habits.

5.1.1 Summary of each chapter

In Chapter 1, the background of the study was discussed, rationale and related literature informed by the study's objectives were reviewed. CER was introduced as the theoretical framework underpinning this study, and TTM was used as a conceptual framework. The methodological approach was PAR, and CDA was used for data generation. The chapter also presented the value of the researcher, ethical considerations and the chapter’s layout.

Chapter 2 dealt with CER in detail, and the role of the researcher and co-researchers was discussed. Literature was reviewed based on the three countries, the UK, SA and

Kenya, and their policies, theories and previous research. Operational terms were discussed in the study. Challenges were identified solutions to the strategy, conducive conditions, threats, and evidence that the strategy works.

Chapter 3 defined PAR as a methodological approach, which was discussed in detail. The action plan and operational activities of the co-researchers were explained. The credentials and roles of the research team for this study were discussed. Data generation was explained, and the ethical conditions were emphasized. The three levels of CDA were explained in detail, and gave directions on how data was collected.

Chapter 4 presented data analysis, findings, interpretation and discussion of results towards promoting healthy nutritional practices using an SFG. Data were analysed concerning what Chapter 2 demonstrated. Extracts and pictures were analysed using theory, CER and observing PAR principles. CDA was discussed at three levels.

Chapter 5 summarizes the problem statement and the study's background. The aim, objectives and research questions were enunciated. PAR and CER were discussed as they assisted in achieving the study's objectives. Empirical data supported the findings. Solutions were discussed and reflected and bought change to the study. Teamwork was accomplished as the community and the school worked harmoniously and collectively.

5.1.2 Research question

With the help of this study, I hoped to provide a solution to the following research question: How might a school food garden in an early childhood care and education facility help to promote healthy nutritional practices?

5.1.3 The aim of the study

The study aimed to develop a plan to encourage healthy eating habits by utilising a school food garden at an early childhood care and education facility.

5.1.4 The objectives of the study

The objectives of the study were to:

- Explore and identify challenges that result in improper eating habits when the school food garden is not there;
- Analyse different strategies that have been used to promote healthy nutritional practices through the use of the school food garden at an ECCE;
- emphasize the components that constitute a strategy to use a school food garden for promoting healthy nutritional practices;
- Anticipate possible threats when using the school food garden to promote healthy nutritional practices; and
- Understand and investigate indicators of the success of the school food garden to enhance proper eating habits.

5.2 FINDINGS AND RECOMMENDATIONS

The findings and the study's suggestions are summarised in this report section. Stress, peer pressure, a lack of gardening knowledge, an understanding of nutritious food, and awareness of organic foods all interfere with good eating.

5.2.1 Stress inhibiting proper healthy eating habits

The findings that emerged from this study show that stress eating did not only occur among adults, but even children become stress eaters for several reasons. The study revealed that stress suffered by teachers and learners could be a problem in designing the strategy to promote healthy nutritional practices; this was made known when the practitioners and the coordinating team convened their first meeting to set up their strengths and weaknesses. Emotional eating became apparent when the team researchers bought and ate sweets and snacks during our meeting. In some circumstances, even the parents expressed their fatigue but claimed that everything would be alright if they could just obtain candy. One of the local farmers complained that

because he had diabetes, he had to constantly eat sweets and snacks to maintain a stable blood sugar level. The professors denied the students the chance to demonstrate that they could fully practise healthy eating because they are stress eaters; this led one to conclude that the team members were all stress eaters before the study. Due to this, the early childhood care and education centre failed to encourage healthy eating.

5.2.1.1 Recommendations

The study suggests that everyone associated with the school should work together to promote healthy eating practices for its success and activities. Whether joyful, exhausted, or stressed, the staff should ensure that all generations consume sufficient nutritional foods. All stakeholders must be willing to stop becoming emotional/stress eaters for the plan to succeed. Involving themselves in their children's healthy diets, parents can help. The school administration's help will ensure enough fruit is available in the school canteen and counsel the women selling food outside the school only to sell fruit to the students if they want to succeed in avoiding stress eating.

5.2.2 Social pressure inhibiting proper eating habits

The study established that social pressure is a big problem among learners. The learners failed to improve their eating habits because of their friends, parents and the school surroundings. The parents continued to pack lunches for their children with too much junk food and fizzy drinks, and there is a dire need to train parents regarding healthy food for their children. The school also needs to play a significant role by implementing policies on healthy eating and seeing that everyone follows the policies. The school also failed to adhere to it because the ladies selling at the gates were not told what to sell to the learners and what was not allowed. The school failed to properly train their teachers as they are the great influencers of the learners; children believe their teachers are always right, and it is easy to copy their bad eating habits.

The school failed to understand that it is vital for them to take the lead in health promotion so that the learners can always practise proper eating habits. The parents can be directed by the school policy on what to pack for their children.

5.2.2.1 Recommendations

The report suggests that schools adopt healthy eating policies and that they also adopt policies regarding the lunches that parents pack for their kids. All parties involved should be aware of proper nutritional practices to prevent children from developing poor eating habits at home and school. It is vital always to urge instructors to practise healthy eating habits. People with healthy eating habits live longer and don't struggle with obesity and being overweight. Fruit should be used as a reward instead of food, and parents should set an example by eating healthfully in front of their children and limiting their use of television. Parents shouldn't categorise food as good or bad or use it as a reward.

5.2.3 Lack of gardening skill

The investigation discovered a lack of gardening expertise and knowledge in the Mkhondo Circuit. Since the gardening instruction is for individual training, neither the community nor the school gains anything from it. Even though a general worker looks after the garden at the first school, it is evident from looking at the garden that nobody there has any gardening abilities. When providing gardening instruction, the community as a whole only occasionally participates.

5.2.3.1 Recommendations

The team concluded that gardening knowledge and training are required for the school and the community to manage school food gardens successfully. The team members favoured receiving training since they realised it was necessary after learning from meetings to operate practical gardens.

5.2.4 Lack of knowledge/awareness about healthy foods

The study found a problem with health food awareness and knowledge both nationally and internationally. Most people regularly consume junk food, luxuries, and snacks which is one of the things that make it challenging to encourage sensible dietary habits. Because most of my co-researchers were munching on sweets and other snacks throughout the conversations, I discovered that they had negative attitudes regarding healthy eating.

5.2.4.1 Recommendations

There should be campaigns to promote healthy eating habits; the minimum advertisements of unhealthy foods on all media platforms should be initiated. Parents should stop using junk food to reward children; instead, they can use healthy organic foods.

5.2.5 Lack of knowledge of organic foods

The study concludes that a further factor contributing to the no/poor promotion of healthy nutritional practices is that people of Mkhondo are not exposed to organic foods; even in the nearest shops, none sell organic food. The people of Mkhondo are exposed to conventional foods.

5.2.5.1 Recommendations

The co-researchers expressed an interest in eating organic food and even said they required instruction on growing it. They stated that to instruct people on organic food properly, they need to confer with experts in the field of agriculture. We learned about the advantages of eating organic foods during our discussions, and the co-researchers recognised their significance.

5.3 RECOMMENDED CONDITIONS CONDUCIVE TO THE STRATEGY TO BE DESIGNED SUCCESSFULLY

5.3.1 Collaboration in promoting healthy nutritional practices

The study recognized that collaboration is one of the conditions conducive to successfully promoting healthy nutritional practices (see 2.7.3.1). In meetings discussions, it emerged that teams actively involved in promoting healthy nutritional practices in the school food garden were created through collaboration. Sharing of ideas, communicating, knowledge sharing and coordination were done following the principles of CER theory. According to Bansal et al. (2019:138), collaboration provides equal opportunities among members.

5.4 PLAUSIBLE THREATS TO THE STRATEGY

5.4.1 Lack of different stakeholders' engagement in schools when promoting healthy nutritional practices

The study found that encouraging healthy eating habits requires the involvement of many different stakeholders. Promoting healthy nutritional habits is at risk from a lack of stakeholder participation. It is challenging to obtain opinions from stakeholders when not enough of them participate in the study. In the study, stakeholders are seen as participants rather than decision-makers. Better nutritional practices are met when all stakeholders participate in the school food garden (see 2.7.1).

5.4.2 Lack of knowledge/training about the ways of promoting healthy nutritional practices

Knowledge is power; without knowledge of healthy foods, knowing which food is good or bad is not easy. The study has recognized that knowledge is a probable threat to the strategy. Lack of training for teachers on agricultural subjects makes it difficult to run a successful school food garden that will be used to promote healthy nutritional practices.

5.4.3 Teachers' and learners' attitudes towards promoting healthy nutritional practices

The study has established that teachers' and learners' attitudes are plausible threats to the strategy because one needs to love gardening.

5.5 EVIDENCE THAT THE STRATEGY WORKED

5.5.1 The indicators of success in promoting healthy nutritional practices

The study found that there were indicators of success in promoting healthy nutritional practices. The success includes the willingness of learners to taste fruit and vegetable willingness of the community to participate in gardening. At the same time, the practitioners further reported that the learners' ability to memorize has improved.

5.6 A STRATEGY TO IMPROVE THE PROMOTION OF HEALTHY NUTRITIONAL PRACTICES

5.6.1 Background of the strategy

The Department of Education requires the school to have an NSNP committee. Still, the findings revealed that the committee members were not prepared to assist the school in establishing a helpful school food garden. According to the literature, stress eating is a key contributor to obesity and other non-communicable diseases; hence it must be avoided at all costs. The study also revealed difficulties with societal pressure, lack of gardening expertise, knowledge of healthy diets, and ignorance of organic foods (see 4.2).

Factors hindering the plan's success include a lack of stakeholder involvement, information about healthy meals and training, and teachers' and students' attitudes toward encouraging healthy nutritional practices. Additionally, the prerequisites for the strategy's success were investigated. The success indicators help to make the strategy effective.

5.6.2 Strategy development

The study revealed the need to strengthen the NSNP to promote healthy nutritional practices successfully. The team tried to network with stakeholders to promote healthy nutritional practices productively and efficiently.

5.7 VALUE OF THE STUDY

The most significant value of the study was working with co-researchers in their usual setting; this brought the most knowledge to people who had never engaged in any research. When the co-researchers analysed the data through PAR, the value of working as a team was felt. All the co-researchers participated actively and worked together throughout the study.

Through PAR, the co-researchers could collaborate and think creatively, generate original ideas, and were inspired to take the project to its successful conclusion. The co-researchers acknowledged the abilities they had acquired and pledged to use them. Even their backyard gardens were noted, contributing to their efforts to encourage a healthy diet. Planning, organising, and executing proved challenging if the co-researchers worked together because they found it so exciting to collaborate with gardening specialists.

Teachers were able to tell that there was a need for them to receive formal gardening skills training, as it not only benefits the learners with healthy nutrition but also helps academically. The co-researchers seemed to enjoy the research from the beginning until the end because of the number of co-researchers who attended from the start to the end of the project.

5.8 LIMITATIONS OF THE STUDY

The shortage of time for coordinated team meetings seemed to threaten the coordinated team's ability to function effectively, even though we successfully established the strategy to support the promotion of healthy nutritional practices.

Distance from the school, poor driving conditions during rainy weather, the cost of attending our meetings out of pocket, and the research participants' lack of agricultural science experience and gardening abilities were other factors. The study was carried out at an ECCE in Mkhondo. The students in the mainstream expressed some interest in participating in the study, but they were prohibited from doing so because it was only for learners in ECCEs.

5.9 CONCLUSION

A continuous educational workshop should be organised to encourage healthy nutritional practises, according to limited information and a low degree of optimism. We accomplished the objectives of good eating habits by working as a team, sharing ideas, and integrating all co-researchers in the study. The promotion of healthy nutritional practices benefits significantly from the application of PAR principles. CER served as a guide for the coordinated team.

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APPENDICES

APPENDIX A: ETHICAL CLEARANCE LETTER

RESEARCH ETHICS CLEARANCE LETTER

Ref: UMP/ZM Dlamini/MEd/2022
Date: 5 October 2022
Name of Researcher: Zanele Maureen Dlamini
Student number: 220571813
Supervisor: Prof MG Mahlomaholo
Co-supervisor: Professor S Sommers
School / Department: School of Early Childhood Education
Faculty: Faculty of Education

RE: APPROVAL FOR ETHICAL CLEARANCE FOR THE STUDY:

PROMOTING HEALTHY NUTRITION PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN AT AN EARLY - CHILDHOOD CARE AND EDUCATION CENTRE IN THE MKHONDO CIRCUIT.

Reference is made to the above heading.

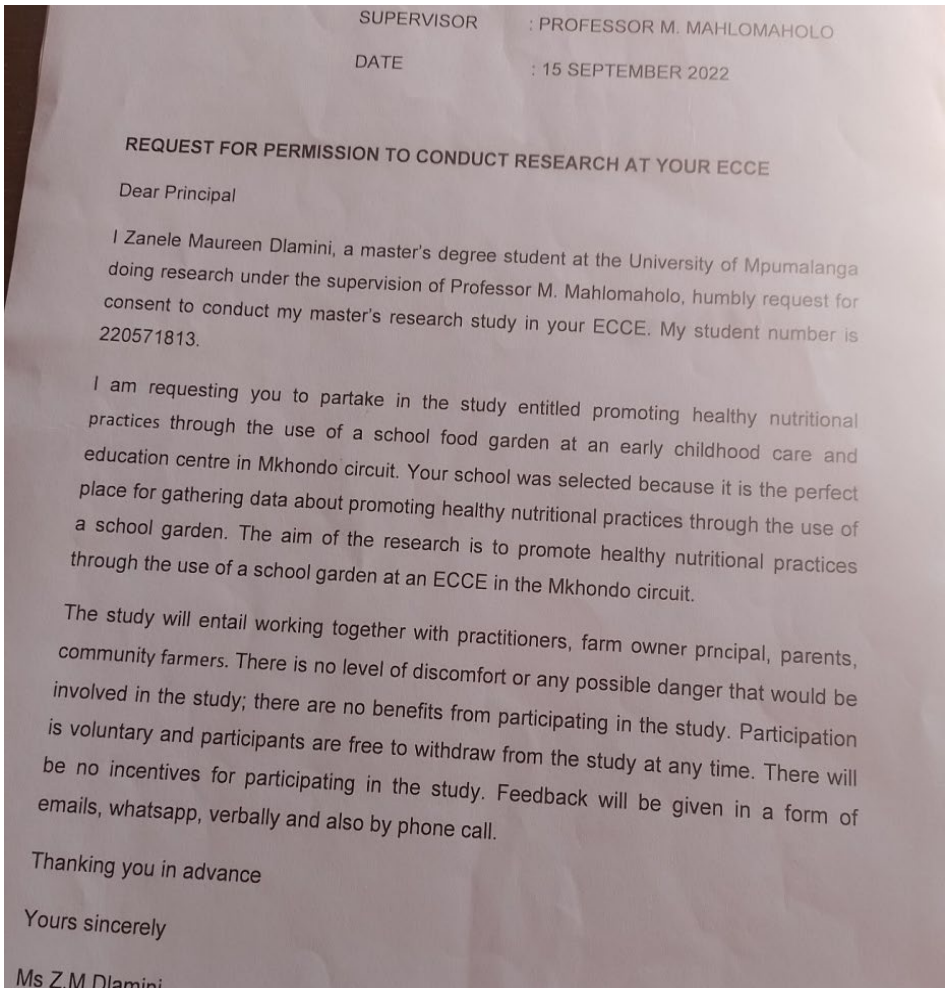
I am pleased to inform you that the Chairperson has on behalf of the University of Mpumalanga's Research Ethics Committee, **approved ethical clearance of the above mentioned study**.

Research Ethics Clearance Letter *UMP*

Please note:
Any alteration/s to the approved research protocol, i.e. Questionnaire/Interview Schedule, Informed Consent form, Title of the project, Location of the study, Research Approach and methods, must be reviewed and approved prior to its implementation.

Prof Estelle Boshoff
Chairperson: University of Mpumalanga's Research Ethics Committee.
Date: 5 October 2022

APPENDIX B: LETTER TO MKHONDO CIRCUIT REQUESTING PERMISSION TO CONDUCT RESEARCH



SUPERVISOR : PROFESSOR M. MAHLOMAHOLO

DATE : 15 SEPTEMBER 2022

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT YOUR ECCE

Dear Principal

I Zanele Maureen Dlamini, a master's degree student at the University of Mpumalanga doing research under the supervision of Professor M. Mahlomaholo, humbly request for consent to conduct my master's research study in your ECCE. My student number is 220571813.

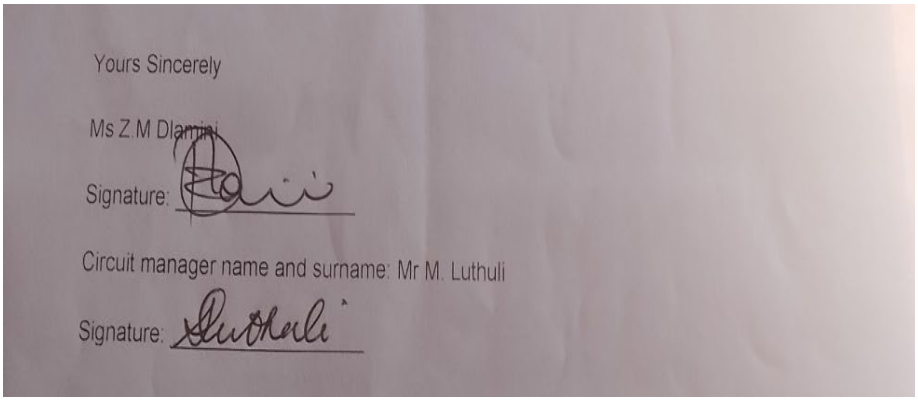
I am requesting you to partake in the study entitled promoting healthy nutritional practices through the use of a school food garden at an early childhood care and education centre in Mkhondo circuit. Your school was selected because it is the perfect place for gathering data about promoting healthy nutritional practices through the use of a school garden. The aim of the research is to promote healthy nutritional practices through the use of a school garden at an ECCE in the Mkhondo circuit.

The study will entail working together with practitioners, farm owner principal, parents, community farmers. There is no level of discomfort or any possible danger that would be involved in the study; there are no benefits from participating in the study. Participation is voluntary and participants are free to withdraw from the study at any time. There will be no incentives for participating in the study. Feedback will be given in a form of emails, whatsapp, verbally and also by phone call.

Thanking you in advance

Yours sincerely

Ms Z.M Dlamini


Yours Sincerely

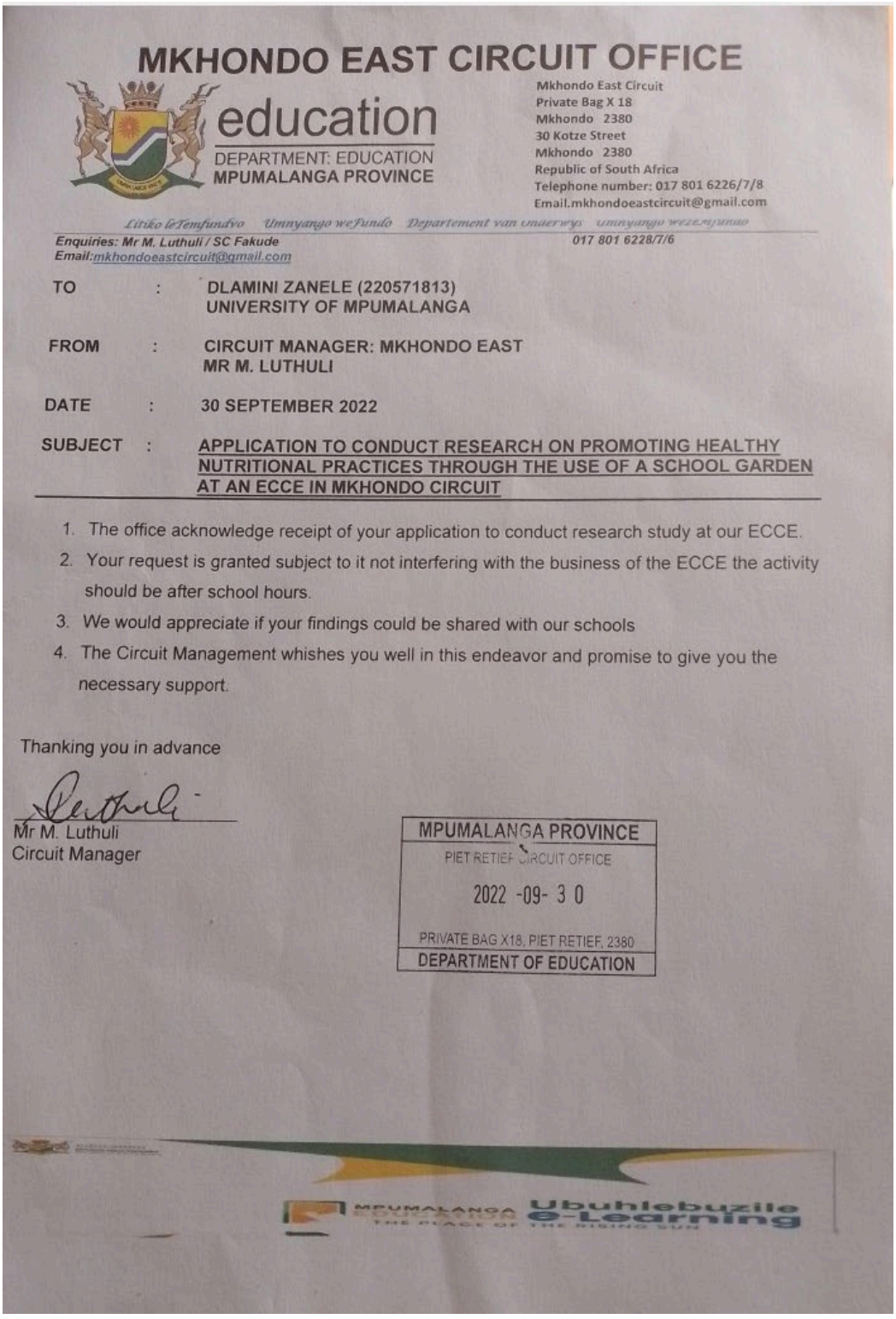
Ms Z.M Dlamini

Signature:

Circuit manager name and surname: Mr M. Luthuli

Signature:

APPENDIX C: PERMISSION FROM MKHONDO CIRCUIT TO CONDUCT RESEARCH



MKHONDO EAST CIRCUIT OFFICE

education
DEPARTMENT: EDUCATION
MPUMALANGA PROVINCE

Mkhondo East Circuit
Private Bag X 18
Mkhondo 2380
30 Kotze Street
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Republic of South Africa
Telephone number: 017 801 6226/7/8
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Enquiries: Mr M. Luthuli / SC Fakude 017 801 6228/7/6
Email:mkhondoeastcircuit@gmail.com

TO : **DLAMINI ZANELE (220571813)**
UNIVERSITY OF MPUMALANGA

FROM : **CIRCUIT MANAGER: MKHONDO EAST**
MR M. LUTHULI

DATE : **30 SEPTEMBER 2022**

SUBJECT : **APPLICATION TO CONDUCT RESEARCH ON PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL GARDEN AT AN ECCE IN MKHONDO CIRCUIT**

1. The office acknowledge receipt of your application to conduct research study at our ECCE.
2. Your request is granted subject to it not interfering with the business of the ECCE the activity should be after school hours.
3. We would appreciate if your findings could be shared with our schools
4. The Circuit Management whishes you well in this endeavor and promise to give you the necessary support.

Thanking you in advance

Mr M. Luthuli
Circuit Manager

MPUMALANGA PROVINCE
PIET RETIEF CIRCUIT OFFICE
2022 -09- 30
PRIVATE BAG X18, PIET RETIEF, 2380
DEPARTMENT OF EDUCATION

MPUMALANGA EDUCATION
THE PLACE OF THE RISING SUN
Ubuhlebuzile e-Learning

APPENDIX D: LETTER FROM LANGUAGE EDITOR 1

CORNELIA GELDENHUYS

✆083 2877088
corrieg@mweb.co.za

22 December 2022

TO WHOM IT MAY CONCERN

Herewith I, **Cornelia Geldenhuys (ID 521114 0083 088)** declare that I am a qualified, accredited language practitioner and that I have edited the following dissertation:

PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN AT AN EARLY-CHILDHOOD CARE AND EDUCATION CENTRE IN MKHONDO CIRCUIT

By

Zanele Maureen Dlamini

220571813

All changes were indicated by track changes and comments **for the author(s) to verify, clarify aspects that are unclear, make the necessary adjustments and finalise.** The editor takes no responsibility in the instance of this not being done. The document remains the final responsibility of the author(s).

.....
C GELDENHUYS
MA (Lin) cum laude, MA (Mus), HOD, HDL, UOLM

Accredited member/Geakkrediteerde lid, SATI, Membership/Lidmaatskap: 1001474 (A/E-E/A)
Full member/Volle lid, Professional Editors Guild (PEG, Membership GEL001)
Mediterranean Editors and Translators (MET: Membership 02393)
European Association of Scientific Editors (EASE: Membership 5523)

APPENDIX E: LETTER FROM LANGUAGE EDITOR 2

Carmen
Nel
BA (HONS)

EDITING SERVICES
072 377 5585
carmen@ufs.ac.za

CERTIFICATE OF LANGUAGE EDITING

This letter certifies that I have edited the work detailed below for language as well as technical issues.

Title:

PROMOTING HEALTHY NUTRITIONAL PRACTICES THROUGH THE USE OF A SCHOOL FOOD GARDEN AT AN EARLY CHILDHOOD CARE AND EDUCATION CENTRE IN THE MKHONDO CIRCUIT

by

Zanele Maureen Dlamini

Student no. 220571813

Carmen Nel

11 April 2023