Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development

L. Maloka


http://orcid.org/0000-0002-0638-3669

Dissertation accepted in fulfilment of the requirements for the degree of *Master of Education in Special Needs Education*

at the North-West University

Supervisor:	Prof M Koen
Co-supervisor:	Dr P Lunga
Co-supervisor:	Ms P Matu

DECLARATION

I, Lerato Maloka, declare that the research in this dissertation is entirely my own work, with the exception of sections that have been acknowledged and cited appropriately. I confirm that no section of this dissertation has been submitted for examination at a different institution or is being submitted concurrently by another student at another university.

Signature

ACKNOWLEDGEMENTS

I dedicate this work to my dearest friend Mmina Minah Tau who encouraged me to enrol for this degree and to write the mini proposal a few days before she passed away. You inspired me and gave me a reason to keep going when times were hard and to finish this study.

Father, I am grateful for this gift and opportunity. I am thankful for your gift of wisdom, energy, and purpose, and for your guidance throughout this study in every word, concept, and action. God was with me every step of the way during this research journey.

I would like to thank my supervisor Professor Mariëtte Koen for always be supportive and patient. I am grateful to have such a wonderful supervisor.

To my co-supervisors: Dr Prosper Lunga, thank you for making the journey simple for me, for your support and for always being phone call away. Thank you for lifting my spirit at times when I wanted to give up and for being a good teacher. To Ms Pumla Matu, thank you for always bringing smile to my face, and for motivating me. You saw the potential in me and you embraced it.

My sincere gratitude to all those not mentioned by name, my family, friends, Principal and foundation phase colleagues for their support in multiple ways throughout this journey. Thank you Vusimuzi Fortune Mkhonza, Perfect Lunga and Welhemina Mphidi for the motivation and inspiration; words can't express my appreciation. I thank my partner, Deligate Ndumiso Kubheka for his support and love. Thank you for always encouraging and believing in me; this would not have been possible without your faith in me. With a support system like mine, anything is possible, no matter the circumstances.

My final word of appreciation is to all the co-researchers that made this study possible. Thank you for sharing your time and knowledge in order to make it a success.

ABSTRACT

Outdoor play-based learning (PBL) is a key component of early childhood education (Ali et al., 2018). However, due to a lack of expertise and resources, Grade R teachers focus more on formal teaching governed by policies and struggle to integrate it into lessons. Furthermore, parents do not always recognise its value. Collaborative strategies can assist both parties by enabling them to share ideas, skills, and knowledge in order to promote outdoor PBL. This study aimed to develop collaborative strategies to promote outdoor PBL for education for sustainable development ESD in Grade R. Guided by Vygotsky's Social Constructivism Learning Theory, a qualitative approach was employed to examine how collaboration between Grade R teachers and parents could promote outdoor PBL. Participatory Action Learning and Action Research (PALAR) was used as a research design to develop collaborative strategies between parents and Grade R teachers to promote outdoor PBL for ESD. Data was generated through recorded action learning set discussions, photovoice, collage, and drawings with narratives, reflective journal and analysed using thematic analysis process. The five quality indicators developed were utilised to promote the study's trustworthiness. The findings revealed that pedagogical impediments hampered Grade R teachers and parents in utilising outdoor PBL and that collaboration was lacking. The co-researchers recommended strategies to support outdoor PBL and encourage collaboration amongst teachers, parents and the wider community.

Key terms: outdoor play-based learning, collaboration, Grade R, education for sustainable development, Participatory Action Learning and Action Research

OPSOMMING

Buitelug-PGO is 'n sleutelkomponent van vroeë kinderonderwys (Ali et al., 2018). Graad R-onderwysers sukkel egter om buitelug-PGO in lesse te integreer en ouers erken nie die waarde van buitespelgebaseerd nie. Gevolglik poog die huidige studie om samewerkende strategieë te ontwikkel om buitelug-PBL vir ESD in Graad R te bevorder. Hierdie studie is gelei deur Vygotsky se Social Constructivism Learning Theory. Die studie gebruik 'n kwalitatiewe benadering om buitelug-PBL van graad R-onderwysers en ouers waar te neem. Deelnemende Aksie Leer en Aksie Navorsing (PALAR) is aangewend as 'n navorsingsontwerp om samewerkende strategieë tussen ouers en onderwysers te ontwikkel om of PGO vir onderwys vir volhoubare ontwikkeling te bevorder. Data is gegenereer deur aangetekende aksieleerstelbesprekings, foto-stem, collage en tekeninge met narratiewe, en dan ontleed met behulp se tematiese ontledingsproses. Die vyf kwaliteit-aanwysers wat deur ontwikkel is, is gebruik om studiebetroubaarheid te verseker. Die bevindinge het aan die lig gebring dat daar reeds pedagogiese struikelblokke vir Graad R-onderwysers en ouers is wanneer buitelug-PBL gebruik word. Die tweede bevinding was om samewerking tussen onderwysers, ouers en die gemeenskap aan te moedig. Die derde bevinding het gesê dat strategieë om buitelug-PBL te ondersteun geïmplementeer moet word. Weens 'n gebrek aan kundigheid en hulpbronne, fokus Graad R-onderwysers meer op formele onderrig wat deur beleide beheer word en sukkel om buite-PBL toe te pas. Samewerkende strategieë kan egter Graad R-onderwysers en -ouers bystaan deur hulle toe te laat om idees, vaardighede en kennis te deel ten einde buitelug-PBL te bevorder.

Sleutelterme: buitespelgebaseerde leer, samewerking, Graad R, onderwys vir volhoubare ontwikkeling, Deelnemende askieleer-en-aksienavorsigngsbenadering

ACRONYMS

ACTP	Accredited Coach Training Programme
ACTPSA	A Chance to Play Southern Africa, a play advocacy organisation
ALS	Action Learning Set
BELA Bill	Basic Education Laws Amendment Bill
CAPS	Curriculum Assessment Policy Statements
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
ECCE	Early childhood care and education
ECD	Early childhood development
ECE	Early childhood education
ESD	Education for sustainable development
FMS	Fundamental Movement Skills
LTSM	Learning and Teaching Support Material
NCERT	National Council of Educational Research and Training
NEPA	National Education Policy Act
NIECD	National Integrated Early Childhood Development
NQF	National Qualifications Framework
NWU	North-West University
PALAR	Participatory Action Learning and Action Research
PBL	Play-based learning

SANCF	South African National Curriculum Framework
SASC	Sports and Recreation in South Africa
SDGs	Sustainable Development Goals
SMT	School Management Team
UNICEF	United Nations International Children's Emergency Fund
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organization
ZPD	Zone of proximal development

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

BACKGROUND AND ORIENTATION

1.1 Introduction

This study investigated how collaboration between Grade R teachers and parents could promote outdoor play-based learning (PBL) for education for sustainable development (ESD). South African Children's Act 38 of 2005 conceptualises *early childhood development* (ECD) as the process by which children from birth to nine years grow and thrive mentally, physically, morally, spiritually, emotionally and socially. The Department of Basic Education (DBE, 2022) defines ECD as a comprehensive approach to programmes and policies for children from birth to age seven. According to the ECD Census (2021) (in Parliamentary Monitoring Group, 2020) ECD is grouped into three age groups, namely conception to two years; children aged three to five and in Grade R, and those aged six to nine in Grades 1 to 3. For the purposes of this study, ECD relates to the age group 0-5 years, which is up to Grade R. The National Education Policy Act 27 of 1996 provides that children must be four or five by the June of the year of admission to Grade R. The Department of Higher Education and Training (DHET, 2017) notes that an ECD teacher holds an appropriate qualification to deliver programmes catering to young children (from birth), whereas a Grade R teacher tends to children between the ages of four and six. It is clear that these terms are often used interchangeably. To avoid confusion, the term teacher is used in this study when referring to an adult who provides ECD services through a formal programme in Grade R.

Play-based learning is a key component of early childhood education (Ali et al., 2018). Young children learn better using play because it allows them to experiment with material to communicate and understand new concepts (Alexander & Boud, 2018). Furthermore, social activities are significant in engaging young children in practical problem-solving that enables them to come up with solutions to life situations (Prajapati, 2017). Playing may appear messy, but it is important because children learn through play (Edwards, 2017). Two forms of play are applied to teach young children, namely, indoor and outdoor PBL (Thalib & Ahmad, 2020). Outdoor PLB is an educational approach including outdoor contexts where children could learn through play in natural or designed outdoor spaces. Outdoor PBL does not only refer to jumping, sprinting, climbing, and leaping; it specifically refers to opportunities for children to explore and to think about the world around them (Leggett & Newman, 2017). It creates opportunities to learn valuable skills that support children's holistic development while having fun (UNICEF, 2018). Exploring woods, gardens, backyards, parks, and wilderness areas helps children to develop focus,

mindfulness, and reflective practice (Vinathe & Derek, 2016). An outdoor environment that encourages children to be physically active supports activities that combine aerobic exercise with complex motor skills like kicking, throwing, or riding a bicycle and allow for social interaction linked to school readiness (Waters & Rekers, 2019). This suggests that language acquisition, early literacy, conceptual learning, problem-solving, big, and small motor skills, and creativity are all nurtured through outdoor PBL and exploration. It makes learning accessible to children, and they are generally willing to persevere to learn something new or solve a problem (Lee & Ensel Bailie, 2019).

Research has shown that children whose patents are involved in their education perform better academically. Furthermore, this enables parents and teachers to understand each other and their responsibilities (Liu et al., 2020). Parental involvement in their children's education is an important facilitator of ESD (See section 4.2.2.1.1). It is vital that parents be involved in outdoor PBL possible because their attitudes significantly impact their children's interests and attitudes in various situations (Van Rooijen et al., 2020). Parents' support for outdoor PBL is also associated with safety (Parsons & Traunter, 2020). However, some believe that keeping their children indoors means that they will not have to invest in purchasing outdoor PBL resources (Bentsen et al., 2022; Ostermeier et al., 2022). Indeed, due to financial constraints, some cannot make such investment (WHO, 2020). Furthermore, parents might be unaware of the value of early skills development for their children (Visser et al., 2019). Their involvement in outdoor PBL enables children to integrate social and cultural knowledge into their educational and career paths (Nguyen, 2019).

Despite the significance of outdoor PBL, the United Nations International Children's Emergency Fund (UNICEF, 2018) observes that teachers are reluctant to incorporate it into the learning environment. Furthermore, they consider learning resources to be restricted to workbooks or wall charts, with real objects that children could consider and utilise in their learning neglected. Research in several countries has shown that parents often do not regard outdoor PBL as learning. For example, Yahya (2016) found that Chinese parents regarded outdoor PBL as insufficient to prepare their children for primary school, particularly when they did not see proof of educational excellence (Yahya, 2016). Although, Guides (2019) notes that parents' fear of kidnapping, injury, insect-borne diseases, traffic and pollution are also barriers to children's outdoor access. Furthermore, more modern parents work, and children can access many technological devices (Yalcin, 2015).

According to Sandseter et al. (2020), parental fears, attitudes toward social dangers, and perceptions of the value of free play and autonomous outdoor play all significantly impact children's opportunities for outdoor PBL opportunities. Bennetts et al. (2018) reported that in the

United States of America, the primary factor that influenced parents' decisions about their children's independent mobility were concerns about traffic safety, followed by fear of strangers. Brussoni et al. (2020) observe that parents and other adults' fear of serious injury, disapproval, and censure deter children from risk-taking during play. The United Nations Convention on the Rights of the Child holds that every child has the right to play (Yogman et al., 2018). However, Reimers et al. (2018) note that, worldwide, many children do not engage in the level of physical activity required for a healthy lifestyle and have few opportunities for active outdoor play, which is important for their development. At the time of their study, only 13% of girls and 17% of boys aged 4-17 in Germany met the WHO physical activity guidelines, which recommend that children engage in at least one hour of moderate-to-vigorous physical activity (MVPA) per day (Reimers et al., 2018). Furthermore, due to parental concerns about road safety and stranger danger, modern children have limited independent mobility (i.e., the freedom to travel to places and play outside without adult supervision) and less opportunity to play outdoors (Pelletier et al., 2021).

Abubakar and Aina (2019) concluded that outdoor PBL was rapidly disappearing from the lives of Nigerian children, particularly at home Michlig et al. (2019) stated that this is due to parents overloaded schedule and consequent exhaustion; fear of injury and traffic, and the threat of kidnapping. The school becomes responsible for increasing opportunities for children to play outdoors on the school grounds (Matthiesen, 2017). Grade R teachers act as gatekeepers in the playground because they set daily schedules and ultimately decide whether to take the children outdoors (Stonebanks et al., 2019). Furthermore, Bryant (2018) stated that Grade R teachers' attitudes and beliefs influence the behaviours of the preschool-aged children they care for, as these children rely completely on their teachers for opportunities to be active.

In South Africa, outdoor PBL is rare both at home and in school. According to Radebe (2019), this could be due to it being regarded as incompatible with non-Western attitudes toward childhood. Furthermore, the social environment in South African cities makes it unsafe for children to play outdoors, resulting in many preferring to interact with digital devices rather than be outdoors where they can explore and develop their gross and fine motor skills (Brown et al., 2017). While it has been found that the country's Grade R teachers are conscious of the importance of outdoor PBL in children's holistic development and for ESD (Darven, 2019), many lacks sufficient understanding to implement it (Bubikova-Mona et al., 2019).

Teaching children through outdoor PBL would foster equality and promote poverty amelioration as well as enable children to learn to preserve and reuse natural resources, promoting the realisation of the United Nations' Sustainable Development Goals (SDGs, 2030). Collecting and reusing recycled material to implement outdoor PBL will also support ESD (See section 4.2.2.2.1).

This highlights the need for capacity-building programmes for ECD practitioners and Grade R teachers. South Africa has a shortage of well-trained Grade R teachers (Isaacs et al., 2019). Effective outdoor PBL also depends on Grade R teachers' interpersonal skills, in particular, how they approach the teaching process and interact with children considering their psychological, social, and physical abilities (Khalil et al., 2022). Landscape architects and educationalists should collaborate to design educational environments that encourage children to explore, investigate, build, mix, dash and play (Cole & Altenburger, 2019).

South Africa's education system is generally characterised by low levels of parent-teacher collaboration (Ramnarain & Hlatswayo, 2018). Collaboration among teachers, families, and communities is critical (UNICEF, 2018) in creating a shared vision for the role of play in Grade R programmes (UNICEF, 2018). It is against this background that this study focused on collaboration between teachers and parents to promote outdoor PBL for ESD.

1.2 Problem statement

ECD has been recognised as a vital prerequisite for South Africa's social and economic development (Richter et al., 2017). However, schools are characterised by educational standardisation that limits teacher independence and regards ECD centres and Grade R as training for school rather than for life (Darling-Hammond, 2017). A lack of awareness and training on outdoor PBL has resulted in parents and teachers neglecting it (Parsons & Traunter, 2020). Children's ability to learn through play and access nature might be negatively impacted by a lack of collaboration between teachers and parents and insufficient knowledge of how to implement it in the classroom (Bubikova-Moan et al., 2019). Belwal et al. (2020) note that a lack of clear standards and strategies on parental involvement in outdoor PBL and teachers' lack of knowledge of utilising outdoor PBL objects or resources hinder such learning.

In primary schools, the reception year (Grade R) is often neglected because teaching and learning focus on the higher Grades. Furthermore, it appears as if people do not understand the necessity of laying a solid foundation in Grade R by assisting children in their holistic development. They [people] regard reading and writing as more important than developing personal skills in Grade R. Due to a lack of resources and support staff, the School Management Team (SMT) does not provide the required support to Grade R courses (Visser et al., 2019). The Basic Education Laws Amendment Bill (BELA Bill, 2022) provides that school attendance is compulsory in South Africa beginning in Grade R. Regardless of the age from which school attendance is required, a parent can enrol their children in Grade R at a younger age if they so desire, subject to the requirements of the BELA Bill (2022). On 13 December 2021, the Minister of Basic Education, Ms Angie

Motshekga, announced that in 2022 Grade R would become compulsory for children who turn five by 30 June 2022, with Grade RR being introduced in 2030 (DBE, 2022). However, some researchers pointed to the possibility that making Grade R compulsory would result in a focus on formal schooling in the early years (Peacock et al., 2021).

In my three years as a Grade 1 teacher, I observed a lack of outdoor PBL in the school's Grade R classes. Bauml et al. (2020) emphasised that Grade R children typically remained in their classrooms during outdoor playtime and the idea of outdoor PBL seemed to be interpreted as a break, rather than an opportunity for learning through play. During discussions with Grade R teachers challenges were revealed such as insufficient resources, a lack of knowledge and training, poor maintenance of outdoor spaces and limited parental involvement and support. Collaboration between Grade R teachers and parents to promote outdoor PBL also seemed to be lacking. These challenges pose obstacles to realise using outdoor PBL for ESD.

1.3 Aims, objectives and research questions

The aim of the study is to investigate collaboration between Grade R teachers and parents to promote outdoor PBL for ESD. Its objectives were to explore the current situation regarding outdoor PBL for ESD in Grade R and to develop collaborative strategies to promote outdoor PBL for ESD (See subsection 3.2).

The following questions guided the study through its various cycles.

1.3.1 Primary research question

How can teacher-parent collaboration contribute to promoting outdoor play-based learning for education for sustainable development in Grade R?

The secondary questions arising from the primary research question are listed below.

1.3.2 Secondary research questions

The following secondary questions were identified to answer the main research question:

Cycle One

- *What is the current situation regarding collaboration to promote outdoor play-based learning for education for sustainable development in Grade R?*

Cycle Two

- *What collaborative strategies can be developed to promote outdoor play-based learning for education for sustainable development in Grade R?*

1.4 Clarification of operational concepts

This section clarifies the key concepts used in the study.

1.4.1 Outdoor play-based learning

Furtak and Penuel (2019) argue that children learn best when all their senses are involved, and they are engaged in hands-on exploration of the world around them. According to Mann et al. (2021), outdoor PBL involves taking children outside to their immediate or neighbouring environment to learn important curriculum lessons in four likely locations: (a) the school grounds, (b) local communities, (c) day trips, and (d) overnight stays/built-up camps and excursions. In South Africa outdoor PBL is regarded as an educational approach that incorporates play and exploration outside the classroom where hands-on experiences and physical activity are key elements to stimulate educational objectives (See section 4.2.1.1.2). For the purposes of this study, outdoor PBL is considered as an educational approach that aims to foster the holistic development of young children by addressing cognitive, emotional social, spiritual and physical facets of learning in an outdoor context.

1.4.2 Collaboration

Collaboration involves networking, cooperation and coordination to improve the partners' capacity for mutual benefit and attain a common purpose (National Integrated Early Childhood Development Policy of the Republic of South Africa (NIECD), 2015). In this study, collaboration is interpreted as a collaborative effort between teachers and parents together to promote outdoor PBL in Grade R for ESD.

1.4.3 Grade R

Grade R refers to the reception year and is regarded as the foundation to formal education (Department of Education [DoE], 2001). It is seen as the transition between ECD and formal education. School attendance should begin in Grade R rather than Grade 1, at five years or

younger (BELA Bill, 2022). Grade R is considered part of the schooling system in South Africa and is aimed at holistic development of young children.

1.4.4 Education for sustainable development (ESD)

The 2030 Agenda for sustainable development aims to harmonise three core elements: economic growth, social inclusion and environmental protection (Agbedahin, 2019). The 17 SDGs are a universal call to interlink 17 objectives with the aim of transforming the world (UNESCO, 2015). ESD in the early years focuses on the holistic development of children and aims to develop young children as agents of change. ESD aims to integrating principles of sustainability into the curriculum to incorporate skills, knowledge, values, and agency required to address interdependent global issues such as environmental degradation, loss of biodiversity, insufficient use of resources, and inequality (Rieckmann, 2018). It fosters the acquisition of the knowledge, skills, understanding, values, and activities necessary to create an environmentally friendly world, promotes social fairness, and encourages economic sustainability (UNESCO, 2021).

1.5 Theoretical framework

This study was guided by Vygotsky's Social Constructivism Learning Theory (1968) which suggests that play promotes cognitive and social development in children (Bozkurt, 2017). Vygotsky (1968) highlighted the importance of instruction and the socio-historical environment in children's cognitive development (See Chapter Two). Young children can make sense of the world around them and build meaning through sensory and physical exploration of their environment during play (Shotter, 2019). Moreover, Vygotsky (1968) identified three characteristics of play: children build an imaginary setting, assume and act out roles, and obey a set of rules dictated by those roles (Bodrova & Leong, 2019).

Social constructivism regards learning as a method where the child actively creates or builds new ideas or concepts (Aljohani, 2017). Outdoor PBL provides the opportunity for a Grade R teacher to develop a learning environment in which children can engage in activities that encourage and support learning for ESD (Mare & Mutezo, 2021). Pyle and Danniels (2017) describe PBL as activities in which children participate in learning. During outdoor PBL, Grade R teachers can support children with confidence-building praise and guidance as they faced obstacles, inspire them to collaborate in groups to think about issues and problems, and guide them through difficulties, stimulating activities, and challenges in real-life situations (See section 2.3).

The Social Constructivism Learning Theory's main notion is the benefits of numerous encounters that support children's overall schoolwork and academic achievements (Shih et al., 2019). Parents need to understand that such collaboration is critical for a positive outcome for at-risk children. It enables them to speak with their children about their experiences and the problems they confront. This will help them to understand the importance of a holistic picture of a children's life, as well as how to spot difficulties at home (Krane & Klevan, 2019). Collaboration between the school and the home is a valuable strategy to promote academic success and persistence (See subsection 2.4.3). Among other factors, it is founded on shared responsibility between parents and Grade R teachers (Myende & Nhlumayo, 2022). The Social Constructivism Learning Theory was an appropriate theoretical framework for the study in exploring how teacher-parent collaboration can promote outdoor PBL for ESD in Grade R.

1.6 Research methodology

Research methodology refers to the processes used to conduct a comprehensive investigation of the research topic (Collins & Stockton, 2018). These include the research paradigm, theoretical models, procedures, and methods used to gather and analyse the data (Maher et al., 2021).

Qualitative research aims to build theories; it is defined as an activity that places the observer in the world (Goodyear & Bundon, 2021). A qualitative approach enables researchers to ask questions that cannot be easily quantified in order to better understand human experience and the everyday situations of social phenomena (Mohajan, 2018). Qualitative research focuses on the qualities of entities as well as processes and meanings that are not systematically tested or assessed (Carroll & Kovas, 2021). It is non-numerical, descriptive, and reasoning and word-based and its objective is to understand, feel, and express the event (Pulla & Carter 2018). A qualitative approach was appropriate for this study, where I worked collaboratively with parents and Grade R teachers because it enabled me to ask questions to better understand the social phenomena of PBL for ESD.

1.6.1 Paradigm

A paradigm is a researcher's worldview, which involves abstract beliefs and principles that determine how he/she sees the world and understands and behaves within it (Kivunja & Kuyini, 2017). It is the conceptual lens through which a researcher assesses the methodological components of his/her topic in order to select the research methodology and decide on the data to be collected (Thompson Burdine et al., 2021). This study adopted a participatory and transformative paradigm, which is a fundamental component of the PALAR research design (See section 3.3.1). In the next section I briefly explain the philosophical underpinnings of the study.

1.6.1.1 Epistemological assumptions

According to Ozumba (2017), the term "epistemology" is derived from the Greek word "episteme" and "logos". "Episteme" means "knowledge" or "understanding," whereas "logos" translates to "reason" or "argument". The epistemological assumption of the participatory and transformative paradigm is that knowledge is developed by means of sound relationships and communication between the principal researcher and the co-researchers (Wood & Zuber-Skerrit, 2013). Participatory research acknowledges the lived experiences and perspectives of all the researchers. In this study, I considered the participants as co-researchers and valid sources of knowledge in order to identify the challenges in relation to the utilisation of outdoor PBL and to develop strategies to support its adoption for ESD (See subsection 3.3.1.2).

1.6.1.2 Ontological assumptions

Alberti (2016) defines ontology as a theory about the nature of reality. It is implicit in all educational practice, and its assumptions provide the foundation for interpreting the world and the universe. Biddle and Schafft (2015) argue that to understand that life and matter are inseparably linked, one must overcome the Cartesian divide between mind and matter, resulting in an ontological relational shift in how one relates to the non-human and human worlds in teaching and learning from one another through relationships (See subsection 3.3.1.1). In participatory research, ontological assumptions acknowledge different subjective realities. I acknowledged the multiple subjective realities of the co-researchers when exploring ways to support the implementation of PBL in Grade R.

1.6.1.3 Axiological assumptions

The nature of ethics and what the researcher values are defined as axiology (Biddle & Schafft, 2015). Axiology involves judgments, including ethics and aesthetics (Huddleston et al., 2017). Participatory studies often embrace democratic and ethical values. During the research I was committed to principles of ethic and care. I respected the views of participants and recognised democratic, ethical and socially just values (See subsection 3.3.1.3).

The above-mentioned philosophical foundations guided the research design.

1.6.2 Research design

According to Zuber-Skerritt (2015), a research design is a road map for a study that sets out guidelines and procedures after considering various research approaches. The research design aims to promote efficient data collection while spending as little time, effort, and money as possible (Frank et al., 2017). The theory of social constructivism posits that people learn more when they interact and engage with one another. It emphasises collaboration between individuals and their peers in developing knowledge. Such knowledge is derived from the manner in which people interact with one another, their environment, and society as a whole (See section 3.2). I used PALAR as the research design. Wood (2020) describes this as a revolutionary, collaborative, and democratic approach to education. In this study, the goal was for all the co-researchers to be involved in data generation and collaborate with the community.

Wood (2020) notes that PALAR is founded on democratic values and principles. The "seven Cs" (communication, critical reflection, commitment, coaching, collaboration, competence, and character-building) are developed through an action learning process based on the "three Rs" (relationship, reflection, and recognition). I explain in (subsection 3.3.2) why these principles are crucial and provide an explanation of the way I applied these principles in the study. The study employed two cycles, with each including the action learning steps of planning, acting, observing, and reflecting. These cycles contributed to a better understanding of the PBL problem. In Cycle One the action learning set (ALS) investigated the current situation regarding collaboration to promote outdoor PBL in Grade R. In Cycle Two the focus was on strategies to collaborate to implement outdoor PBL for ESD. Schematic Figure 3.1 illustrates how PALAR enabled the study's findings.

1.7 Research methods

Research methods include the research site, recruitment of participants and data generation methods.

1.7.1 Recruitment of co-researchers

The study focused on exploring the implementation of PBL for ESD in a school with limited resources. School X is a quintile 3 Section 20 school in Fezile Dabi district in the Free State. Convenient sampling was used to recruit co-researchers who shared a common interest (See subsection 3.5.1). As explained in Chapter One, I considered the participants as co-researchers and valid sources of knowledge.

Convenient sampling refers to a sampling method where co-researchers are elected according to certain practical requirements (Pace, 2021). I met with the independent recruiter to explain the study before the recruitment process started. Mr B (pseudonym) distributed a flyer to explain the study and managed to recruit, two female Grade R teachers and four female parents, who were interested in participating (See section 3.5.1). The language of communication was Sesotho and it is also the language of teaching and learning at the school. I explained the purpose of the study to the potential participants and established a collaborative relationship with the co-researchers, forming an action learning set (ALS) to address the issues. The ALS aimed to provide realistic actions to address the issues, including tools, time, and resources (Wood, 2020). Diamond et al. (2016) add that an ALS is a small group of people focusing on understanding and solving issues at hand. The ALS was developed by a group of people who wanted to participate in the study because they had similar experiences and faced similar challenges. According to Wood (2020), a group of people who collaborate are equal, hence the term co-researcher was adopted.

The study's objectives were to improve the implementation of PBL at a school with limited resources.

1.7.2 Data generation methods

Apuke (2017) defines data generation as the systematic process of generating and analysing data on a study's variables to answer the research questions and evaluate the outcomes. When using a participatory approach, the data is interpreted and evaluated in collaboration with the ALS (Zuber-Skerritt, 2015).

In this study, data were generated through the use of drawings with narratives, photovoice, collage and reflective journal. All these methods were applied in both its cycles (See sections 4.2.1 and 4.2.2).

1.8 Data analysis

According to Schildkamp (2019), data analysis is the process of modelling and analysing data to derive insights that aid decision-making. There are various data analysis methodologies and procedures (Assarroudi et al., 2018). The raw data obtained from the recorded ALS discussions, drawings, photovoice, collages and reflective journal was analysed to convert it into useful ideas to answer the research questions (Linneberg & Korsgaard, 2019). Braun and Clarke's (2019) six-phase data analysis method was employed as a framework to analyse the data.

The ALS collaborated to familiarise ourselves with the data, then generated basic codes, searched for themes, and reviewed them. Finally, the themes were defined and named, and the report was produced (See section 3.7). Thematic content analysis was used to identify patterns and themes and give the co-researchers' ideas meaning. The following section discusses the quality criteria.

1.9 Quality criteria

Connelly (2016) notes that a study's data, interpretations, and methods need to be validated to ensure research integrity. Validity and trustworthiness were used to establish quality criteria, which I then used to guide the co-researcher's decision-making and community action (See section 3.8). True findings are represented by the co-researchers in this study. Herr and Anderson (2015) developed the following five quality indicators that were utilised to confirm the study's validity: Validity of the outcome, validity of the process, democratic validity, catalytic validity, and dialogic validity.

1.10 Ethical considerations

Prior to commencing the research project, ethical clearance was obtained from the North-West University's (NWU) ethics committee, Edu-Rec and the Department of Education in the Free State. Ethical principles assist researchers in distinguishing between what is proper and what is wrong (Maree, 2016). Ethics entails confidentiality, anonymity and protecting the co-researcher's rights (Dodd, 2020). As set out in section 3.9, three fundamental ethical principles, namely, beneficence, justice, and respect were adhered to (Ferdowsian et al., 2020). Consent forms and ethical agreements were also signed (Wood, 2020). The agreement focussed on informed consent, the risk of harm, anonymity, confidentiality, and conflicts of interest (Addendum H ethical agreement and Addenda E and F consent form).

1.11 Contribution of the study

The ALS collaborated to provide teachers and parents with knowledge, skills, and values on outdoor PBL. The practical contribution was that the study allowed teachers and parents to contribute and engage in promoting outdoor PBL for ESD in Grade R in local communities and schools.

The study contributed to developing a strong relationship between teachers and parents so that they collaborate to promote outdoor PBL. Grade R teachers and parents gained more information about how children learn through outdoor play and how to achieve ESD goals.

This study's method brought together teachers, parents, and I to bring about changes in the community. Parents and teachers' voices were heard, and various strategies were adopted as a team to promote outdoor PBL. Since the study was based in a community, ESD was promoted in Grade R using outdoor PBL.

1.12 Layout of the chapters

Chapter One: Background and orientation. This introductory chapter presents a summary of the study and its rationale. It also discusses the research topic, research questions, clarification of concepts, and the theoretical framework, and methodology.

Chapter Two: Outdoor play-based learning in Grade R. The chapter presents a literature review on outdoor PBL for ESD and how teachers and parents can collaborate to enhance outdoor PBL.

Chapter Three: Theoretical justification of the methodology. Chapter Three outlines the methodology employed to conduct the study. The participatory and transformative paradigm is discussed as well as the study's theoretical and methodological assumptions. The study employed PALAR as research design, which focuses on collaboration between co-researchers and the researcher to promote outdoor PBL for ESD. The chapter concludes with a discussion on the validity of the study and ethical implications.

Chapter Four: Data presentation and analysis, and discussion of findings. This chapter presents and analyses the results from the two cycles employed to answer the primary and secondary research questions. In Cycle One, the co-researchers developed a relationship based on trust and respect, and identified the barriers to the implementation of outdoor PBL for ESD. In Cycle Two, they devised strategies to address the challenges identified in Cycle One using different strategies to promote societal change.

Chapter Five: Summary, reflections, recommendations and conclusion. This chapter presents the study's conclusions and recommendations for future research.

1.13 Summary

This chapter covered the purpose of the study, its objectives, and the research questions as well as the research paradigm and design and the various data generation methods. The following chapter presents an in-depth literature review on the challenges and benefits of outdoor PBL, its various types and collaboration between Grade R teachers and parents to promote outdoor PBL.

CHAPTER TWO

OUTDOOR PLAY-BASED LEARNING IN GRADE R

2.1 Introduction

The previous chapter introduced this study which focused on collaboration between Grade R teachers and parents to enhance outdoor PBL in Grade R for ESD. Chapter one also outlined the methodology and methods utilised. This chapter reviews the literature on outdoor PBL and ESD for children in Grade R. It begins by setting out a theoretical framework to explain how collaboration between teachers and parents could enhance outdoor PBL in Grade R. This is followed by the conceptualisation of outdoor PBL for Grade R children and the current situation in this regard. The challenges confronting Grade R teachers in implementing outdoor PBL, as well as its benefits for children and the importance of promoting ESD through outdoor PBL are also highlighted.

2.2 Theoretical framework

According to Kivunja (2018), a theoretical framework is an overview of current theories that guide the development of the assertions used in a study. Sacred Heart University (2020) notes that a theoretical framework comprises of concepts and existing theories used for a specific study. Collins and Stockton (2018), describes such a framework as an essential element of the research process. The theoretical framework is thus a crucial part of research which helps to identify the variables for the study, and to develop and implement research strategies. Vygotsky's Social Constructivism Learning Theory (1968) was selected as an appropriate theory for this study as it focuses on collaborative learning. Children's knowledge is shaped by their interactions with one another, as well as by their culture and society as a whole (Osher et al., 2020). Children rely on others to help them lay the groundwork for their future and learning from others facilitates the development of their knowledge and reality (Akpan et al.,2020). The social constructivism theory thus holds that cognitive functions are products of social interactions (Bozkurt, 2017).

The principles of the social constructivism theory emphasise that children learn by interacting with objects or people, progressively growing and developing through exploration, communication, and observations with those around them (Mohammed & Kinyo, 2020). The theory also focuses on how children create meaning according to experiences in their surroundings (Aljohani, 2017). According to Akpan et al. (2020), learning is significant when children actively create basic knowledge by themselves through exploration and discovery. Bento and Dias (2017) state that

socialisation is important because it allows children to collaborate, to overcome obstacles and promote their cognitive and social development (See section 4.2.2.1). The current study focused on collaboration between parents and teachers in utilising outdoor PBL to promote ESD in Grade R. The social constructivism learning theory holds that children learn from one another through socialisation (Rauf & Bakar, 2019). Utilising social constructivism as the theory underpinning this research was thus crucial as it helped the co-researchers to explore how outdoor PBL could benefit children's development as well as teaching and learning processes.

2.2.1 Social constructivism and outdoor play-based learning

Early Childhood Development is defined by the Department of Basic Education (DBE, 2022) as an all-encompassing strategy for policies and programmes of children aged from birth to nine years. South Africa's Children's Act 38 of 2005 describes it as the process in which children between the ages of one to nine can grow and thrive mentally, physically, morally, spiritually, emotionally, and socially (Republic of South Africa, 2005). This development takes place in diverse contexts (backgrounds, schools, well-being facilities, and community-based centres) and encompasses a broad spectrum of programmes that include childcare nutrition and parent education (Bernal at el., 2019). The notion of social constructivism was introduced by Vygotsky in 1968, it concentrates on children's birth cultures and social environments to recognise how they develop their understandings (Macblain, 2022). This suggests that the child first gathers information through interactions and contact with people, and this knowledge is assimilated by instilling values and beliefs. Early learning occurs on two levels, namely, visible and evident knowledge growth, such as language development and knowledge acquisition about how objects work; implicit learning, which is more challenging to track (Vihman, 2017; Avci, 2017). Additionally, a child discovers the world through outdoor PBL by utilising fundamental concepts such as time, space, numbers, values, objective law, and so on (Martin, 2016). According to Alessandroni and Rodriguez (2020) an object refers to a group of items that share the same characteristics, properties, values, and worth based on categorisation and generalisation developed through a child's social interaction.

From birth, children are engaged in playful social interaction with their parents (Robinson et al., 2021). Outdoor PBL communication is typically mutually beneficial, with parents and children collaborating to achieve common goals (Baker et al., 2016). These interactions allow parents to pass on their cultural traditions while enabling children to develop various cognitive, emotional, social, and behavioural skills (Wang et al., 2019). According to Kristen et al. (2016), outdoor PBL also provides social benefits as children are less inhibited and more confident outdoors than

indoors. Newton and Zeidler (2020) state that social interactions through indoor and outdoor PBL build communication and perceptive skills for ESD.

Social interaction plays an important role in Grade R learning (Bozkurt, 2017). This is considered a social, cultural, and motivational phase that occurs through conscious and unconscious discussion and communication with significant people in children's lives (Barak, 2017). According to Kunst et al. (2018), Grade R teachers should encourage oriented participation, collaboration, and outdoor PBL exercises on which children are urged to assist one another during the outdoor activity; offer training tailored to the children's current capabilities, and track progress with an emphasis on mental activity. According to the National Council of Educational Research and Training (2019), in order to think and solve problems during outdoor PBL activities for ESD, children must first make contact with the social environment and then internalise this experience. While playing outdoors and exploring nature, children develop higher-order thinking skills and abilities, allowing them to engage in problem-solving, reasoning, and memory recall (Macblain, 2022). Vygotsky (1968) confirms that the child's mind is inherently social, and speech thus shifts from communicative social to inner egocentric. Furthermore, the development of thinking skills moves from society towards the individual rather than the other way round (Pollarolo, 2022). Domitrovich et al. (2017) observe that social interaction between children promotes a child's social and personal development. During outdoor PBL, social interaction is defined as children engaging with one another, with all participants accountable and encouraging one another's positive behaviour (Fonseca et al., 2022). It enables the development of diverse actions, abilities, behaviours, and experiences that serve as the foundation for ESD (Bubikova-Moan et al., 2019). It is clear from this discussion that relationships with peers are an increasingly important part of a child's life. As they grow older, children’s friendships and peer relationships become closer and more attached (Boele et al., 2019; Casper & Card 2017). They frequently focus more on what their peers know and do than on adults (Koymen & Tomasello, 2020). Grade R teachers can enhance this tendency by combining less skilled children with more knowledgeable peers for observation and imitation (Macblain, 2022).

Outdoor PBL, which supports cognitive development and early learning for sustainable development, is grounded in the social constructivism theory.

2.2.2 Zone of proximal development

Dassa and Derose (2017) define the zone of proximal development (ZPD) as the difference between real and potential developmental levels determined by problem-solving under parental supervision or perhaps in collaboration with more skilled peers. Johnson and Johnson (2017)

state that individuals gain knowledge when they collaborate with others, children develop and integrate new concepts and strategies while learning new skills through working with more skilled individuals. Lewis (2019) notes that, according to Vygotsky, the main objective of education is to keep children within their ZPD by providing them with exciting and culturally meaningful educational and problem-solving activities. Such activities are more challenging for individuals and may require collaboration with a more knowledgeable peer, or with a teacher or parent (Gunn & Delafield-Butt 2016). This implies that outdoor PBL has the potential to engage children with their peers, parents and Grade R teachers when seeking assistance on different activities. Therefore, the efforts to reach the zone of proximal development encourages ESD amongst children in Grade R. The following section discusses outdoor PBL for ESD.

2.3 Conceptualising outdoor play-based learning for Grade R children

Outdoor PBL is an engaging activity which allows children to implement activities that connect their mind, body, and soul (Loebach & Cox, 2022). Additionally, Phajane (2019) affirms that it enables children of all ages to exercise. Being outdoors allow children to play, roll, skip, ride, climb, jump, sit, and even daydream (Aubrey, 2017). They are also exposed to and interact with nature. According to McLean et al. (2023), outdoor PBL is an essential component of sound childhood education. Every outdoor space is unique, and each has limitations that must be identified and considered for children's ESD (Undiyaundeye & Baseka, 2018). Conversely, Moore et al. (2020) observed that most South African outdoor PBL environments are not compliant with the national or municipal standards, thereby negatively impacting the quality of outdoor PBL for ESD.

Outdoor PBL programmes have a long history in Northern Europe, where they have been found to have a positive impact on children's physical wellness, social development, and affinity with the natural environment (Perlman et al., 2021). Internationally, it seems that the implementation of outdoor PBL has improved because Barrable (2019) noted that it is part of national and regional curricula in Australia. Skarstein and Ugelstad (2020), who work in Norwegian ECD, state that the outdoor natural environment differs from indoor settings in that it offers space for active participation, exploration, learning opportunities, and the ability to choose in a sensory-rich environment. Gibson and Ewing (2020) found that American children who participate in various outdoor PBL activities throughout the year build their observation and investigative skills which benefits their development. Outdoor PBL outings in Japan usually include a mandatory visit to a nearby shrine (Ang & Tabu, 2018). These examples reinforce the notion that outdoor PBL could enhance ESD in Grade R even in our South African context.

Studies within the African context also show that PBL has the potential to improve ESD at ECD level. For example, Ogunyemi and Henning (2020) noted that in Zimbabwe, traditional Shona children's outdoor PBL activities are infused in songs that highlight indigenous methods for understanding their environment and build their life skills among other skills. When children learn through PBL, they are able to remember what they learned and apply it when they are older (Hamodi et al., 2017). In most ECD centres in Botswana, children listen to stories and actively participate in dancing and singing, art traditions, ceremonies, beliefs, and values specific to their traditions and backgrounds (Bose & Seetso, 2016). Grade R teachers and parents' active use of indigenous pedagogical strategies, such as singing, narrative, and community-based activities enhances early learning (Okwany, 2016). In contrast, according to Eseyin et al. (2020), many ECD programmes in Nigeria only focus on academic knowledge, while holistic ECD focuses on social, character, physical, and spiritual development, as well as broader cognitive skills, making play, particularly guided outdoor PBL a holistic policy that is appropriate for teaching in Grade R.

Isaacs et al. (2019) observe that the democratic South African government that came to power in 1994 has made several policy commitments to promote the right to play for all children. The amendments are reflected in ECD policies. The Accredited Coach Training Programme (ACTP) (2017) promotes the right of all South African children, from birth to age 18, to play in a secure, age and skills appropriate environment. The ECD Census (2021) notes that the LEGO Foundation and the DBE support outdoor PBL as a key strategy to promote children's positive holistic development. The NIECD (2015) aimed to transform ECD service delivery in South Africa, specifically the implementation of outdoor PBL and ensure the provision of holistic, universally visible, and inclusive ECD services. According to the ECD Census (2021), approximately four out of five (81%) ECD programmes have an outdoor play space that could be on the programme's premises or in a nearby public space (e.g., a park). Fifteen percent have direct access to an outdoor area but lack appropriate outdoor playground equipment, implying that roughly a third (34%) of ECD programmes lack access to an outdoor playground with appropriate equipment.

In South Africa it is noticed that the South African National Curriculum Framework (SANCF, 2015) empowers parents, Grade R teachers, and other caregivers to provide appropriate programmes and strategies to promote outdoor PBL activities by offering suitable programmes and strategies to support such activities.

2.3.1 Current situation on implementation of outdoor play-based learning

The belief that children cannot interact with the environment independently and are at risk when outdoors could limit their experience of outdoor PBL (Harper, 2017). It causes parents and Grade

R teachers to be fearful of possible accidents when children play outdoors (See section 4.2.1.2.2). Indeed, Howe et al. (2021) found that the number of parents whose children are aged two to three-and-a-half who believed outdoor PBL is unsafe increased dramatically, from 26% to 42%. Bauer et al. (2021) and Barrable (2020) bemoan the fact that outdoor PBL is not utilised in Canada because teachers and parents are worried about children's safety. Boxberger and Reimers (2019) state that this results in children being denied the opportunity to engage in outdoor PBL. As noted by Ozkal (2020), children are kept indoors, occupied with structured activities, and supervised by adults. Parents' busy work schedules, the demands of the education system, and a lack of resources compound the problem. This can result in a variety of physical and mental problems (Bhamani et al., 2020).

In South Africa, the home and school environments seem to work against the adoption of outdoor PBL. Some may question and reject it because it is incompatible with non-Western attitudes toward childhood (Aubrey, 2017), while the social environment in the country's urban settings makes it unsafe for children to play outdoors (See section 4.2.1.2.2). Therefore, many children interact with digital devices rather than playing outdoors, where they are able to explore and develop their gross and fine motor skills (Kohli, 2018). According to Mhlanga et al. (2020) the amount of time children in the Western Cape spent using screens such as tablets, phones, laptops, and TV had increased, with 31% of girls and 25% of boys using such devices. Grade R classes in Mpumalanga's rural schools focus on formal teaching, with children taught to read and write, emphasising recitation and memorisation of the letters of the alphabet (See section 4.2.1.1.2). According to Nel et al. (2016), children who learn through PBL do not forget things easily, which confirms that PBL promotes ESD.

Continuous professional development programmes that support Grade R teachers are required to provide content and strategies for teaching children through outdoor PBL (Henry & Namhla, 2020). The following section discusses the types of outdoor PBL within the South African context.

2.3.2 Outdoor play-based learning activities in South African context

Numerous types of outdoor PBL activities can be used in teaching children. This section discusses some of the South African outdoor PBL activities that could be used to enhance ESD and holistic development. Some of these activities can be done indoors, whereas others can be executed outdoor, observing that they can be done alone or with one or more person. Most outdoor PBL activities such as gardening, going to the park, sports, riding bikes, etc. are best done outdoors in a group setting (UNICEF, 2018). The purpose is to teach children how to interact with and explore the environment and nature, thereby increasing their self-esteem and independence as

well as their appreciation of nature (Tuula & Ingunn, 2020). Various activities can be incorporated, and they can be linked to any subject in Grade R. Different outdoor PBL activities are examined below.

2.3.2.1 Hopscotch

"Hopscotch" is one of the most well-known traditional activities enjoyed by children worldwide, with different versions in different countries or regions (Sutton-Smith, 2016). Children's dynamic balance can be improved in any hopscotch activity; however, it is challenging to see how the process of enhancing children's dynamic balance is formed in traditional hopscotch activities (Jati et al., 2020). Hopscotch is an outdoor PBL activity that focuses on strengthening children's balance and coordination by standing on one foot and jumping without holding on (Rahmanto et al., 2020). Furthermore, the hopscotch activity model could stimulate the five senses system, information-seeking ability, competence and thinking process training, and comprehension of different regulations in children (Laely & Yudi, 2018). It improves children's kinaesthetic intelligence, and encourage them to play outdoors for ESD, which adds a different passion to the usual activity and keeps children interested (Laely & Yudi, 2018).

Traditional forms of outdoor PBL are simple in the sense that they are easy to find and play because they can be adapted to existing conditions. Agility, speed, honesty, flexibility, and cooperation are all positive factors for children (Jati et al., 2020). Children exhibit various differentiated responses in subsequent assessment, (Gathmann and Sass, 2018). Mobile embodied children can be expected to exhibit socially organised ways to mark and display emotions that may be activated by specific measures (Witek, 2017). The hopscotch activity can be used to exercise children's gross motor balance. In this activity, the stage known as the memory test, serves to train the child's memory (Fauzan, Suwastika, & Jadied, 2022).

According to Gilmore et al. (2019), hopscotch is a popular activity in South Africa at home and in school. Two or more children play hopscotch in the streets, and the rules must be followed. Children begin to understand that everyone should be given the opportunity to play or share their talent, and that there are rules to be followed and respected in everything we do in life (Jinping, 2017). To play hopscotch, a grid is drawn on the ground, with each block numbered, children balance on one leg while jumping from one block to another without using their hands to balance. A child that can jump the entire grid without falling or balancing with their hands, wins and can draw a flower in any block they want.

According to my observations as a teacher, hopscotch is used in Grade R classrooms to count numbers back and forward, add and subtract, and do number patterns. Hopscotch also assesses

life skills such as balancing and positioning, and gross motor skills (Rahmanto et al., 2020). According to McCormack et al. (2022), outdoor Hopscotch is more beneficial than playing it in classrooms because being outdoors exposes children to nature while improving their social interaction with others.

2.3.2.2 Swings and slides

Children enjoy hanging, swinging, and climbing, all of which are beneficial to their development. These active movement experiences help to grow large muscles in the shoulders, arms, and hands, and build upper body strength (Sport and Recreation New Zealand (SPARC), 2021). Swings offer a wide range of physical, cognitive and social benefits. Children can swing together, alongside each other, or in a basket swing, providing an excellent opportunity to develop teamwork and social skills (Adams et al., 2021). Slides are popular and enjoyable for children of all ages; they allow them to play while promoting balance, coordination, and physical activity. Slides promote children's brain development and strengthen the torso, arms, and shoulders (Adams et al., 2021).

The playfield swing is an indigenous artefact made for entertainment (Phillips, 2019). Children learn indigenous knowledge, also known as tacit knowledge, through playing with it as they grow up (Mavhunga & Kibirige, 2018). Many African cultures have names for this oscillatory mechanism, such as "regarega" in Swahili, which means "that which swings repeatedly going nowhere", "mutserendende" in Shona, which means "going round repeatedly", "umjikeni" in SiSwati, which means "that which returns repeatedly", "skoppelmaai" in Afrikaans, which comes from "skommel", which means "that which shakes". It is simply referred to as "mswinki" in South African townships, mimicking the pronunciation of the English word "swing" (Mavhunga & Kibirige, 2018).

Veitch et al. (2020) state that even though community parks are public spaces that enable children to be physically and socially active, few children or adults visit them these days. According to Lynch et al. (2020), outdoor parks and playgrounds are important sites of social inclusion and social development for children in many urban communities, however, many children living with disabilities find them inaccessible and unusable. Children only have the opportunity to play on slides and swings at school because there are none at home or in the areas they come from, or if there are, they are vandalised and unsafe to play on (Lynch, 2020; Kleppe et al., 2017).

2.3.2.3 Rope skipping

According to Andy et al. (2017), children must first learn to jump before they can hop or skip. Skipping is a difficult skill to learn because it requires the legs and arms to perform different tasks simultaneously, including leg and arm coordination. Rhythm and timing are extremely important; thus, some children learn to skip on the spot while others learn on the move, for example, skip while walking (Rahmanto et al., 2020). Rope skipping is usually a recreational activity on playgrounds, during Physical Education lessons, or in small spaces as an outdoor play-based activity, and it is also included in fitness guidelines and the health and well-being cardiac challenge (Pienaar & Brosdowski-Wills, 2022). Rope skipping-based activities can improve children's engagement in sports both indoors and outdoors as well as their overall physical quality (Dong et al., 2021).

According to Meyer et al. (2019), rope skipping is another outdoor street activity. It can be done individually but is more fun in groups. Children can participate in various activities (Dong et al., 2021; Khudoiberganovna, 2020; Bellver et al., 2021). They can sing and dance while skipping with two or four participants and hop and jump inside while the other two swing the rope. According to McClain and Vandermaas-Peeler (2016) and Dyrstad, et al. (2018), another skipping rope activity is for children to mimic the leader's style. They can jump with two legs, one leg, hands, or hands and legs together. Both boys and girls enjoy skipping rope play as it allows them to count their jumps and learn to balance (Layne et al., 2022). Children understand that they must give each other opportunities to participate and that they must play in groups (Gillies, 2016).

In traditional areas of rural South Africa, young girls would weave or roll long grass into longer strips to make skipping ropes (Burnett, 2018). Nowadays, young girls in the townships make skipping ropes by braiding plastic into longer stripes; these are known as "kgati or gqaphu” (See section 4.2.2.2.1). Moloi et al. (2021) affirmed that children can learn about multiple realities and mathematics through playing with a skipping rope, for instance, when incorporating kgati's movements into math word problems, the initial phase of the skipping rope lesson can focus on observing kgati's movements and determining which geometric shapes are formed. The shape of the rope changes with movement for instance, it swings down at first and forms an up-facing loop, then swings back up and weaves in the air to form a down-facing loop.

2.3.2.4 Climbing ladder

Emotional development follows a distinct path, incorporating all aspects of development as one climbs the ladder and symbolic play is guided by emotions based on this hierarchy (Wieder, 2017). Children in Grade R use climbing and related skills to grasp building play, representational play,

structured play, and enjoyable forms of work. Neuroscience and connected science confirm that outdoor PBL, such as climbing, improves brain and body fitness while promoting the overall health across all generations (Zhao et al., 2020). Skilled climbing performance is characterised by smoothness (the organisation of actions around jerk minimisation) and fluency (the ideal relating of sub-movements in time and space dimensions) in movement dynamics and hand-hold structural response (Seifert et al., 2022; Orth et al., 2016).

According to Almers et al. (2021), most children learned to climb at home by climbing trees, gates, and walls. Although both girls and boys can climb trees, it is a risky outdoor PBL activity that boys prefer (Brussoni et al., 2020; Coe, 2017). As stated by Willgens and Erdman, (2020) that in schools children are exposed to actual ladder climbing, and they must be able to use their hands and legs together including eye-hand coordination. The ladder climbing outdoor PBL activity can be used to create a variety of team-building activities (Tiplady & Menter, 2021).

Osituyo (2018) notes that the ladder was traditionally intended for boys in team-building exercises in South Africa as girls were not considered to be strong and were expected to confine themselves to light activities (Bian et al., 2019). However, de Hoop et al. (2019) state that boys and girls are treated equally in modern times and all children are encouraged to share, care for and love one another, and play together in ECD. South African children participate in climbing ladder activities in ECD to improve their gross-motor skills as well indigenous activities for ESD at home.

2.3.2.5 Indigenous games

The elders traditionally schooled children in many games to help them learn and develop life lessons, such as building endurance and quickness, hunting, and collecting food in severe weather (Ezeanya-Esiobu, 2019). According to Louth and Jamieson-Proctor (2019), indigenous games were created to provide collaborative demonstrations, responses, and support, enabling everyone in the community to enhance their skills to a higher level of proficiency (See section 4.2.2.1). In Africa, indigenous games have been used for various purposes, including sharing and collecting knowledge, 'intellectual skills, cognitive strategies, behaviours, and motor skills' (Bayeck, 2018). The South Africa's Department of Sports and Recreation recognises 23 indigenous games in several districts that have long been played by communities, Mosimenge (2020). They include diketo, kgathi, kho-kho, dibeke, jukskei, and morabaraba. games are thus an integral part of African societies' social, intellectual, and cultural fabric (Bayeck, 2018).

Indigenous games and outdoor PBL activities improve social relations because children learn to adhere to the accepted norms and rules and how to conceptualise and adapt to the sociocultural

context in which they live (Muhammad et al., 2018). According to Mosimenge (2020), these indigenous games can be used to develop and build connections between classroom activities and real-life contexts; however, many PBL activities have not thoroughly explored this connection. Gutierrez et al. (2022) observe that, in ECD, indigenous games and outdoor PBL physically and cognitively prepare children for life. They enhance their inventiveness, and strengthen their critical thinking skills, and their sense of freedom for ESD. The following section discusses the challenges confronting Grade R teachers and parents in implementing outdoor PBL for ESD.

2.4 Challenges in implementing outdoor play-based learning

According, to the NIECD (2015) implementation of outdoor PBL is frequently hampered by factors such as a lack of understanding of the importance of play in Grade R; and a lack of outdoor PBL and interaction opportunities in a child-centred, secure, cooperative, and stress-free environment (See section 4.2.1.2). Grade R teachers lack appropriate training in play-based pedagogy and tend to have a limited understanding of how to teach children playfully (Van As & Excell, 2018; Isaacs et al., 2019) (See section 4.2.1.1). Furthermore, they regard it as less structured and challenging to plan (Lungu & Matafwali, 2020). This has resulted in more formal Grade R programmes. The challenges faced by Grade R teachers and parents, as well as a lack of funds and support from the government, schools, the community, and parents, are discussed below.

2.4.1 Lack of resources

According to play advocacy organisation A Chance to Play Southern Africa, (ACTPSA, 2017), outdoor PBL is important to children's holistic development and well-being; however, children in Southern Africa are deprived of their right to play as a result of poor socio-economic status and political and social conditions, specifically poverty, urban development, and child safety concerns. Aina and Bipath (2022) note that Grade R settings and children's services in South Africa lack human and material resources to implement outdoor PBL at the regional, provincial and district levels. Implementing outdoor PBL in teaching Grade R becomes challenging for teachers and children (Chikwiri & Musiyiwa, 2017). Despite the challenges, Grade R teachers and parents can improvise and use recycled material to create their own outdoor PBL resources (Johnson et al., 2019; CAPS, 2011). For example, in South Africa, an organisation called Singakwenza conducts programmes to teach Grade R teachers and parents to use different recycled material to make educational toys for their children (See section 4.2.2.2.1). Chen (2016) notes that swings can be fashioned from old metal, rope and balls including skipping ropes can be made using plastic. Old tires can be used for play and plastic bottles can be used to make toys (Modise, 2021). The PBL resources that are currently available in Grade R settings tend to be limited and uninteresting

(Mohangi et al., 2016). Resources have to be shared among many children and there is not enough time for them to all have a turn (Soltero-Gonzalez & Gillanders, 2021).

According to Meier and West (2020) and Du Plessis and Mestry (2019), overcrowding in Grade R classes in South African schools also results in a lack of outdoor PBL resources, negatively impacting the development and learning of children from poor socio-economic backgrounds. While the government aims to address this issue, poor planning and resource constraints hamper such efforts (ACTPSA, 2017).

2.4.2 Unqualified teachers

Grade R teachers' knowledge of and attitudes towards outdoor PBL also impact its implementation (Li & Stylianides, 2018). Current policy does not clearly specify the theoretical and practical frameworks for PBL, an outdoor PBL curriculum, teacher professional development, and outdoor PBL practice (Isaacs et al., 2019). Poor or no integration of outdoor PBL in Grade R curricula may be due to teachers' misconceptions about using learning through play in teaching young children (Lunga et al., 2022). Many teachers thus struggle to include outdoor PBL in Grade R settings (Jay & Knaus, 2018).

Madondo (2020) highlights that South Africa's ECD sector suffers from a lack of qualified Grade R teachers. A country wide ECD audit conducted by the national Department of Basic Education in the year 2000 revealed that only 12% of the 54 503 Grade R teachers were qualified, 88% needed further training, and 23% had no training (Leech et al., 2022). One of the reasons for Grade R teachers not enrolling in formal training is a lack of funding, which could be due to a lack of support from government and parents (Richter & Samuels, 2018). The Early Childhood Development Subsector Skill Plan ([ECD SSP] 2019-2022) report states that almost half of ECD teaching staff is not properly trained and qualified (excluding non-accredited skills programmes). In 2001, 63% of ECD practitioners had no ECD qualifications or completed training provided by a non-accredited non-governmental organisation (NGO) (ECD Census, 2021). The 2013 audit found that a similar proportion (61%) of practitioners lacked specialised ECD training. The most recent ECD Census (2021) points to progress, with 52% of teaching staff holding an NQF qualification.

2.4.3 Parents' challenges regarding outdoor play-based learning

Boxberger and Reimers (2019) note that parents serve as gatekeepers as they can limit or allow their children to participate in outdoor PBL. Parental perceptions on safety of an outdoor area

relate to the amount of time children spend outdoors, and are a major barrier to children's outdoor activities (Ernest, 2017). Furthermore, their attitudes in this regard influence their children's activities and attitudes. While some parents embrace outdoor PBL for their children, they are unaware of its value and the policies that govern it (Jayasuriya et al., 2016). Safety concerns are a major reason for parents' hesitance (Sandseter et al., 2020). According to Mart (2021) the limited amount of time parents allowed their children to play outdoors on weekdays is due to their concerns, worries about strangers and fast drivers in their localities. Such fears as well as limited access to outdoor PBL resources are more prevalent in rural areas (Mota et al., 2017).

2.5 The benefits of outdoor play-based learning

According to Goldstein et al. (2017), children's knowledge, awareness, and capacities grow significantly during their preschool years. They actively explore and investigate their surroundings through sensory experiences that include touch, sight, smell, hearing, and taste (Brochado et al., 2021). Sensory and motor stimulation improves the perceptual development of Grade R children, impacting learning readiness for Grade 1 (Nel et al., 2017). Teaching and learning in Grade R should include PBL that enables children to learn new skills. Playing allows them to develop physical intelligence, discover and connect with their environment, collaborate with others, and communicate and control their emotions (Phajane, 2019).

Outdoor environments are crucial because they allow children to become familiar with themselves and their surroundings through their senses (Yildirim & Akamca, 2017). Outdoor PBL enables children to actively participate and learn by doing. Yogman et al. (2018) state that children learn creative thinking through outdoor PBL as they develop social intelligence, risk-taking skills and interact with their sensory perceptions. Furthermore, according to Howe, (2016) natural environments are relaxing and exciting. Children benefit from exposure to sunlight, natural forces, and outdoor space while playing outdoors for ESD, which promotes tissue growth, a stronger immune system, and physical activity (Bento & Dias, 2017). Outdoor PBL is thus an important component of a child's development, with well-documented benefits spanning all developmental stages, including perceptual, physical, social, and emotional development (McClean et al. 2023).

According to Richland et al. (2016), perceptual development is the process by which children think, explore, and solve problems. Their ability to think about and understand their environment is enabled by developing knowledge, skills, problem-solving, and beneficial dispositions (Linsell et al., 2015). Outdoor PBL promotes cognitive development in various ways (Edwards, 2017; Wainwright et al., 2016). Furthermore, Coates and Pimlott-Wisson, (2019) state that PBL develops children's creativeness and memory, both of which are required for thinking about the

past, present, and future. Kane (2016) emphasises that outdoor PBL allows children to develop the problem-solving and decision-making skills that are essential for cognitive development. Outdoor PBL can enhance a child's creative abilities (Lamrani & Abdelwahed, 2020) which are associated with cognitive development because creative thinking promotes problem-solving (Ulfah et al., 2017). Children also learn how to collaborate with others, expand their vocabulary and discover their human potential through outdoor PBL (Dale & Levin, 2016).

Outdoor PBL offers numerous opportunities to develop and improve locomotor and fine motor skills (Loebach & Cox, 2020). Fundamental movement skills (FMS), for example, throwing, catching, running, and jumping are foundational skills for the development of more refined and complex abilities that may be utilised later in life, such as recreational as well as sport and physical activities (Belton et al., 2019). However, Wick et al. (2019) emphasise that FMS will not be fully developed unless they can be practiced in encouraging and supportive environments. Regular outdoor PBL activity promotes child development and growth, as well as mental, physical and psychological well-being that contributes to learning (Alam, 2022). It improves lung function, strengthens the heart, and benefits muscle, bone, and joint health (Dold et al., 2023). It also helps to improve brain function by boosting the circulation of oxygen-rich blood to the brain (Malm et al., 2019). Children enjoy greater independence in expressing themselves (Alme & Reime, 2021).

According to Pearce et al. (2018), children use more complex words outdoors than indoors. Outdoor PBL has social benefits as children tend to be less restrained (Storli, 2021). In a study by Ebbeck al. (2019), comparison was made with children's interpersonal relationships during indoor and outdoor PBL and found that children utilised good communication and perspective-taking skills when playing outdoors, compared to children in more germ-free traditional play areas. Children in outdoor PBL environments with more flexible play options engage in less vacant and observer behaviour and display fewer problem behaviours (Reimers et al., 2018; Hunter, 2019). However, Li et al. (2016) state that the social benefits of outdoor PBL may differ between boys and girls, in the sense that outdoor PBL activities for boys, such as chasing, running, and superhero play, may be beneficial in developing friendships. Girls are more confident outdoors than indoors, and boys engage in more play activities when outdoors (Storli & Sandseter, 2019).

Children begin to form emotional connections outdoors through friendships; they learn the difference between appropriate and offensive behaviour and how to cope with difficult activities without becoming overly frustrated (Leggett & Newman, 2017). They tend to pay more attention in outdoor PBL activities in order to avoid interrupting others and develop the ability to take turns and share toys and to define and express their own and others' feelings (Paananen & Rainio, 2019). Early childhood social and emotional development lays the groundwork for children's

development (Alwaely et al., 2021). It develops their confidence and the competence required to build relationships in different contexts, problem solve, and deal with challenges (Kirk & Jay, 2018). The social and emotional competencies developed through outdoor PBL activities are associated with later academic achievement for ESD (Burgess & Ernest, 2020).

Papaleontiou–Louca et al. (2022) state that the process of developing the inherent human capacity of self-transcendence, in which one's identity is integrated into something better than itself, such as the sacred, is known as spiritual development. Spiritual development may be as important to personal and social well-being as physical, emotional, and cognitive development (Pelaez-Fernandez et al., 2022). The South African concept of Ubuntu recognises one's humanity through interaction with others (Radebe & Phooko, 2017). Ubuntu is referred to as Botho in Sesotho. The phrase "Motho ke motho ka batho" translated as 'I am because we are' means that one understands oneself through one's interdependence with others and the complexities of one's identity (Smaldino, 2020). Spirituality may take a religious form, or it may enable holistic understanding and development among children while they play outdoors for ESD, which may be related to a religious understanding (Kendrick, 2017). Children's minds constantly seek answers to questions to make sense of their surroundings and determine their place in a diverse social landscape (Wei, 2018). However, the spiritual nature of childhood is frequently overlooked in mainstream early childhood settings (Mata-McMahon et al., 2020). The following sub-section examines parental involvement in children's holistic learning and development.

2.6 Parental Involvement in supporting outdoor play-based learning in Grade R

Gorica et al. (2021) assert that parents ought to be informed and involved in their children's school activities so that they become part of the teaching and learning processes. Parents who understand the ways in which children learn are more likely to be encouraging and less likely to jump to negative conclusions (Odgers & Jensen, 2020). Parental involvement includes a range of activities and behaviour that promotes ESD, particularly among Grade R children (See section 4.2.2.1.1). Such involvement begins at home, with parents offering their children a secure environment, good nutrition, appropriate learning experiences, assistance, and a positive mind-set towards school (Durisic & Bunijevac, 2017). However, research in South Africa has shown that social and cultural capital negatively influence parental involvement in schools (Daniels, 2017). Despite efforts to encourage parental involvement, it is hindered by challenges like low income, single-parent households, unemployment, and a lack of supportive parental structures (Munje & Mncube, 2018). Many parents suffer from low self-esteem because they are unable to communicate effectively with teachers due to language difficulties, poor education, and lack of awareness. This causes them to be unaware of many issues relating to parental involvement in

schools (Baker et al., 2016). As a result, Grade R teachers in disadvantaged communities are more likely to have a negative attitude towards parental involvement (Munje & Mncube, 2018).

2.6.2 Collaboration between Grade R teachers and parents

Collaboration is defined by Adams et al. (2016) as a process in which two or more parties work and collaborate to achieve a common objective. Community members that collaborate achieve higher levels of thought, preserve more information, and retain more knowledge than those that operate on their own (Wood, 2020). Collaborative learning and knowledge sharing enable community members to discuss issues and take responsible for their learning, thus creating critical thinkers (Kovecses-Gosi, 2018). Collaboration between Grade R teachers and parents enhances children's welfare and primarily depends on teachers' attitudes, knowledge and skills (Viskovic & Visnjic Jevtic, 2017).

Munje and Mncube (2018) observe that few Grade R teachers understand how to plan and implement collaborative programmes to guide and promote parents' involvement in their children's education throughout the school year. Given the South Africa's high poverty levels and social inequality, Grade R teachers face challenges in collaborating with parents (Ndimande, 2016). Parents with low levels of education may struggle to understand new curricula and may feel discouraged when it comes to school participation (McKenzie et al., 2021). Time constraints, rigid work schedules, the distance from school and the need for basic economic survival discourage such collaboration (Sedibe & Fourie, 2018). A lack of communication and relationship building is the most important impediment to increasing parental involvement (Da Fonte & Barton-Arwood, 2017).

Piersol et al. (2018) assert that cases where parents are engaged in collaborative efforts to enhance outdoor PBL for education for ESD should be celebrated and serve as a starting point for future initiatives (See section 4.2.2.1.1). Alimoradi et al. (2017) state that this calls for parental empowerment, such as in the partnership model, where more personalised relationships and communication methods emerge, giving parents confidence in their ability to make a difference (Wainwright et al., 2016). Collaboration between Grade R teachers and parents would also give children a sense of security (Syriopoulou-Delli et al., 2016).

2.6.3 Communication between Grade R teachers and parents

Bartolome et al. (2017) identify communication between a school and society as one of the six main practices for a cooperative relationship between Grade R teachers and parents (Erdener &

Knoeppel 2018). However, many Grade R teachers lack skills to successfully communicate with parents (Baloyi-Mothibeli et al., 2021). Training programmes for Grade R teachers should thus actively promote the development of communication skills (Kohli, 2018).

Effective communication with parents begins with the welcome signs as they enter the school building (Shaikh et al., 2017). It provides both parties with a better understanding of expected behaviours and children's needs (Bang, 2018). However, Sulyman (2023) found that parents' working hours negatively impact parent-teacher communication. This calls for school-to-home and home-to-school communication strategies with all parents regularly informed about the school's programmes and children's' progress (Epstein, 2019). When teachers and parents collaborate to promote outdoor PBL, they will communicate about a variety of topics, including developing new activities, collecting resources, sharing ideas on how to promote outdoor PBL for ESD, and achieving agreed-upon goals. There is a dire need for parental involvement in supporting outdoor PBL in Grade R towards ESD.

2.7 Summary

This chapter reviewed the literature on outdoor PBL for ESD. It highlighted the challenges confronting Grade R teachers and parents in collaborating to implement such outdoor PBL. The chapter also discussed Vygotsky's (1968) social constructivism theory that highlights the need for cultural and social learning. The theory is relevant for this study as the collaborative nature of learning is central to social constructivism. One of the reasons for the poor implementation of outdoor PBL appears to be a lack of collaboration between Grade R teachers and parents, as well as parental involvement. Even though the ECD curriculum provides guidelines to implement outdoor PBL activities, it appears that some Grade R teachers are unqualified and do not have the resources to do so. The following chapter presents the theoretical justification for the methodology employed to conduct the study.

CHAPTER THREE

THEORETICAL JUSTIFICATION FOR THE METHODOLOGY

3.1 Introduction

Insufficient awareness and lack of knowledge and training in outdoor PBL have led to the neglect of this educational approach (Parsons & Traunter, 2020). This study explored how teacher-parent collaboration could contribute to promoting outdoor PBL for ESD in Grade R. Chapter Two presented the theoretical framework that guided the study and reviewed the literature on the benefits and challenges of promoting outdoor PBL for ESD. The research paradigm, process and methodology are discussed in this chapter. It includes a detailed description of the sampling strategy, data generation, and analysis. The chapter concludes by exploring the ethical considerations addressed in the research and by outlining the quality criteria considered. Table 3.1 summarises the research process:

Table 3.1: Summary of the research process

Research questions (section 3.2)	Primary research question: *How can teacher-parent collaboration contribute to promoting outdoor play-based learning for education for sustainable development in Grade R?* Secondary research questions: **Cycle One** What is the current situation regarding collaboration to promote outdoor play-based learning for education for sustainable development in Grade R? **Cycle Two** What collaborative strategies can be developed to promote outdoor play-based learning for education for sustainable development in Grade R?
Methodology	
Research paradigm (section 3.3.1)	Participatory and transformative paradigm * Epistemological assumptions

	* Ontological assumptions * Axiological assumptions
Research design (section 3.3.2)	Participatory Action Learning and Action Research (PALAR)
Research methods	
Research site	School X Quintile 3 Section 20 school in Fezile Dabi district
Recruitment	Two Grade R teachers and four parents
Data generation methods	Recorded ALS discussions Drawings with narratives Photovoice Collage
Data analysis method	Thematic content analysis (Braun & Clarke, 2019)
Quality criteria	Validity of the outcome, validity of the process, democratic validity, catalytic validity and dialogic validity (Herr & Anderson, 2015)
Ethical considerations	Ethical agreement and consent letters Adhering to ethical principles: beneficence, justice and respect.

(Adapted from Fourie, 2022)

Table 3.1 above shows how the research questions were answered and how the research methods were used to generate and analyse the data.

3.2 Research questions

Qualitative research aims to develop theories and understanding (See 1.6). As noted in Chapter One the qualitative research process is viewed as a continuous procedure by means of which the research community improves its understanding of phenomena by making new significant discoveries (Aspers & Corte, 2019). Mohajan (2018) notes that qualitative research focuses on an entity's qualities, processes, and meanings that are not systematically tested or assessed. Action research is a qualitative research method in which the co-researchers and facilitator collaborate to identify social and educational issues that can result in social change (Wood, 2020).

The study adopted a qualitative approach to make sense of or interpret outdoor PBL for ESD as experienced by parents and Grade R teachers.

This study aimed to promote collaboration between Grade R teachers and parents to promote outdoor PBL for ESD in Grade R. by addressing the following research questions (See 1.3):

3.2.1 Primary research question

How can teacher-parent collaboration contribute to promoting outdoor play-based learning for education for sustainable development in Grade R?

The secondary questions arising from the primary research question are listed below.

3.2.2 Secondary research questions

The following secondary questions were identified to answer the main research question:

Cycle One

- *What is the current situation regarding collaboration to promote outdoor play-based learning for education for sustainable development in Grade R?*

Cycle Two

- *What collaborative strategies can be developed to promote outdoor play-based learning for education for sustainable development in Grade R?*

3.3 Research methodology

The research methodology is the intellectual process used to generate theory and the procedural framework for a study (Chun et al., 2019). According to Maher et al. (2018), it outlines the approach adopted to carry out the study and the tools used to generate and analyse data. I employed a qualitative approach in this study by engaging in collaborative efforts with both the parents and the Grade R teachers to support outdoor PBL for ESD (See subsection 1.6).

3.3.1 Research paradigm

Kamal (2019) defines a paradigm as an approach to observing the world that frames a research topic and influences how researchers perceive it (See subsection 1.6.1). It refers to the

assumptions, principles, and values adopted by the researcher regarding the nature of reality and knowledge (Kaushik & Walsh, 2019). The participatory and transformative paradigm, which is central to PALAR, served as the paradigm for this study. According to Wood (2020), the participatory paradigm enhances social justice by embracing diversity and developing a more comprehensive understanding of one's role in making the community more welcoming and democratic. The transformative paradigm provides a metaphysical umbrella under which those interested in social justice and equity research and evaluation can shelter, network, and dialogue (Kovach, 2021). Jackson et al. (2018) note that it focuses on marginalised groups because it recognises the importance of the conscious inclusion of a diverse range of typically excluded people. In the next section, I discuss the philosophical underpinnings concerning the ontology (the nature of reality), epistemology (defining knowledge and its nature) and axiology (values).

3.3.1.1 Ontological assumptions

According to Yarkon (2020), as a theory of reality or being, ontology exists implicitly in all educational practice. It is based on assumptions about the foundation for interpreting the world and the universe (See subsection 1.6.1.2). Biddle and Schafft (2015) argue that, in order to understand that life and matter are inseparably linked, one must overcome the Cartesian divide between mind and matter, resulting in an ontological relational shift in how one relates to the non-human and human worlds in teaching and learning from each other through relationships.

Ontological beliefs concern the researcher’s answers to questions such as the character of the world and social phenomena; whether reality is orderly or lawful; whether a natural social order exists; whether reality is fixed and stable or constantly changing, and whether it is constructed by the individuals involved in the research (Goodyear & Bundon, 2021). Wood (2020) speaks of relational ontology, where all co-researchers share and contribute ideas about projects. I drew on Wood’s (2020) observation that in in a participatory research study, the ontological stance recognises multiple subjective realities, which means that I acknowledge that the co-researchers may perceive the reality of PBL in different ways (See subsection 1.6.1.2). These different interpretations and perspectives should be respected by researchers (Wood, 2020).

3.3.1.2 Epistemological assumptions

Epistemology refers to how we communicate knowledge to others and deepen our knowledge of phenomena (Kivunja & Kuyine, 2017). Participatory research recognises a constructivist epistemology and acknowledges that knowledge is socially constructed and context dependent. I valued the lived experiences of the co-researchers and considered them as valid sources of knowledge. The Grade R teachers and parents thought critically, brainstormed and shared ideas

and ways to incorporate outdoor PBL in their school. Through dialogue and the formation of critical subjectivity, knowledge was formed (See subsection 1.6.1.1).

3.3.1.3 Axiological assumptions

Axiology refers to the philosophical study of value (See section 1.6.1). We valued and respected the co-researcher's ideas in the ALS meetings and demonstrated willingness to share responsibility for the common good. Ethical approval of the study was obtained from the Free State DOE and the Edu-Rec at the NWU. I read the consent form and agreement letter to the Grade R teachers and parents to ensure they understand the purpose of the study and co-researchers signed them before they participated in it. The knowledge gained from this study assisted the co-researchers in taking appropriate action to support Grade R teachers and parents to promote outdoor PBL in Grade R for ESD (See section 1.6.1.3).

3.3.2 Research design

The study employed a PALAR research design that incorporates both action research and action learning (See subsection 1.6.2). PALAR is a transformative, collaborative, and democratic approach that embraces a constructivist approach (Wood, 2020). PALAR rests on democratic values and principles, described by Wood (2020) as the "seven Cs" and "three Rs" (See section 1.6.2). I applied the "seven Cs" and "three Rs" in the following way:

Communication: Communication with co-researchers took the form of a conversation, and everyone in the group was given the opportunity to express themselves. Sesotho, which is the home language of the co-researchers, was used as the medium of communication in the ALS meeting. Communication formed the foundation for relationship-building and learning.

Commitment: Everyone involved in the ALS was dedicated and committed because the focus was on the collective effort of bringing about change. The responsibilities were shared, and each co-researcher contributed with their knowledge, skills and sense of ownership (ethical agreement Addendum H). Our collaboration could be described as a jigsaw puzzle, where each co-researcher was indispensable.

Competence: Participatory research acknowledges that knowledge is subjective. The ALS respected the lived experiences and views of all the co-researchers.

Compromise: Members sacrificed their time to participate in this study; and they listened to others' points of view to reach mutual agreement.

Critical self-reflection: The co-researchers orally reflected on their emotions, thoughts, motives, and values. Self-reflection took place from the beginning to the end of the project.

Collaboration: The co-researchers collaborated as a team. Our collaboration could be described as a jigsaw puzzle, where each co-researcher was indispensable.

Coaching: As a facilitator, I mentored and facilitated the ALS meetings that were held in a friendly setting where the co-researchers interacted with one another. Given the importance of relationship building in the context of PALAR, it made sense for each co-researcher in the study to abide by independent principles developed through an ALS.

The three R's were embraced by focusing on the relationship reflection and recognition:

Relationship: All members of the group collaborated as they coached and communicated with one another in a respectful manner, with all members committed to completing all the action learning objectives. The co-researchers worked together to promote outdoor PBL for ESD, forming a stable relationship based on trust and respect, and bringing about change.

Reflection: All the members of the group shared their previous and current knowledge, and we learned from one another as some things were new to us. In order to make sense of our data, we used critical thinking in our ALS. Co-researchers wrote down their reflections and they were discussed in our last ALS meeting.

Recognition: The ALS recognised each participant as a valid source of knowledge**.** We gained confidence and capabilities through our ALS meetings. We affirmed our own and everyone else's dignity within the group.

Two Cycles

The study employed two cycles, with each including the action learning steps of planning, acting, observing, and reflecting. These contributed to a better understanding of the problem and how to deal with it collaboratively as articulated by Wood (2020). We investigated the current situation regarding collaboration to promote outdoor PBL in Grade R during the first cycle of the research. The second cycle focused on strategies for co-researchers to collaborate to implement outdoor PBL for ESD.

The following schematic figure (Figure 3.1) illustrates how PALAR enabled the study's findings. It illustrates the shift from Cycle One to Cycle Two of data generation following the PALAR process.

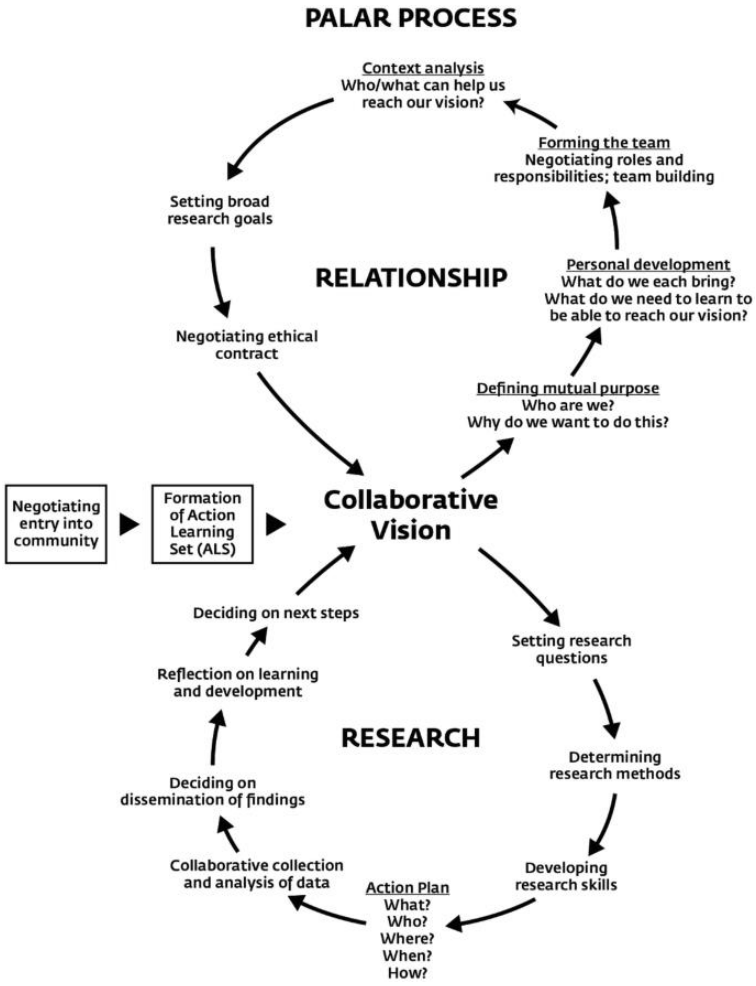


Figure 3.1: The PALAR process (Wood, 2020)

Figure 3.1 demonstrates how the emphasis was placed firstly, on the relationship within the ALS in order to form a collaborative vision; and secondly on the research in order to set the questions, determine the methods, the action plan and reflect.

Cycle One addressed the following research question:

What is the current situation regarding collaboration to promote outdoor play-based learning for education for sustainable development in Grade R?

The ALS explored the current situation regarding outdoor PBL in Grade R during this cycle. The Grade R teachers and parents addressed existing challenges or situations that arose when

implementing outdoor PBL throughout this cycle. They discussed and considered different options and suggestions to address the situation.

Cycle Two started with a review of Cycle One and a discussion on the needs identified. We focused on how Grade R teachers and parents could collaborate to promote outdoor PBL for ESD. The aim was to develop strategies to implement outdoor PBL in Grade R by addressing the following research question:

What collaborative strategies can be developed to promote outdoor play-based learning for education for sustainable development in Grade R?

Figure 3.2 shows how PALAR was employed in the study.

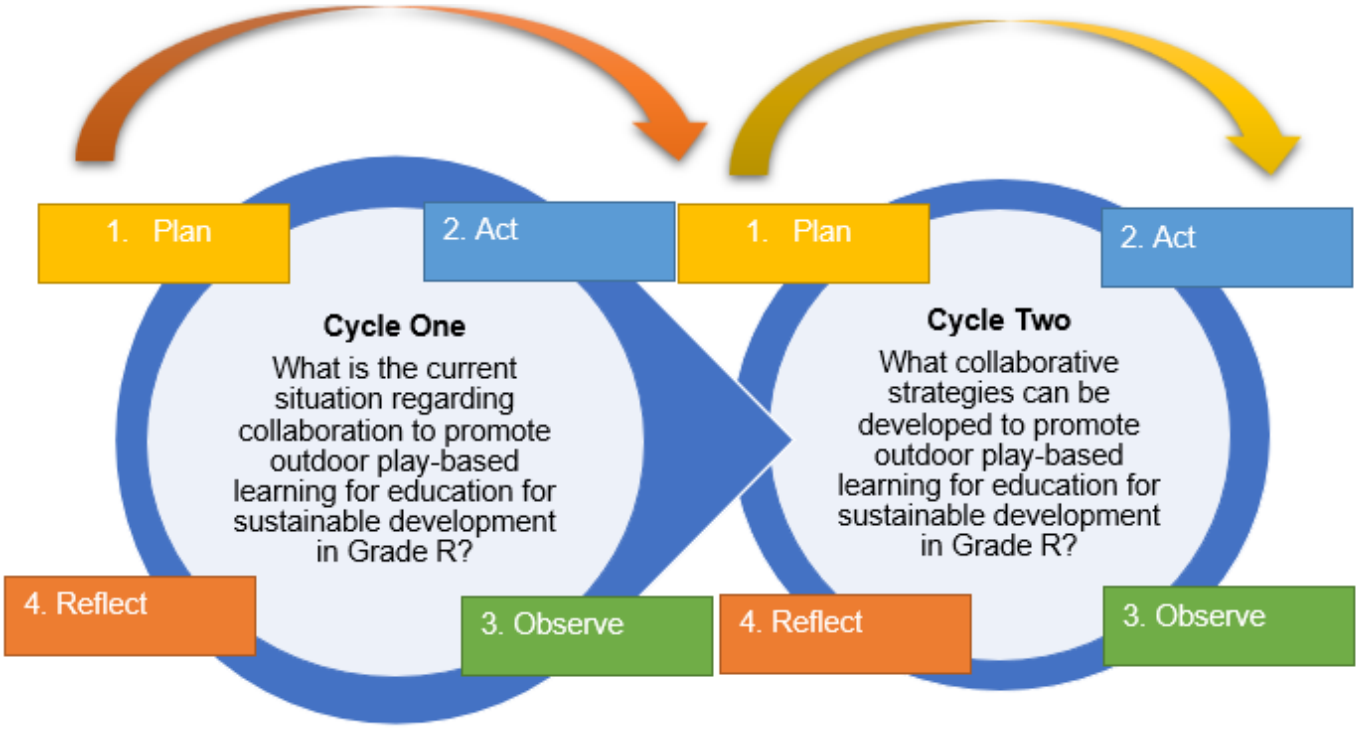


Figure 3.2: The PALAR research design

Figure 3.2 sets out the process employed during the two cycles. As noted previously, this cyclical process includes four phases, culminating in informal sharing of the knowledge generated. The following sections explain the research methods.

3.5 Research methods

This section discusses the research site, participant recruitment, and data generation methods.

3.5.1 Site and recruitment of co-researchers

School X is a Quintile 3 Section 20 school in Fezile Dabi district, Free State. I recognised School X's difficulties in implementing outdoor PBL for ESD. The school is a full-service school that is not fully funded by the department. It is an old building, and the Grade R classes lack the resources required to implement outdoor PBL.

The process or technique used to select a suitable sample of co-researchers is referred to as recruiting co-researchers (Shen et al., 2017). According to Pace (2021), convenient sampling is a type of random sampling in which co-researchers from the population under study are included if they meet certain practical requirements (See section 1.6.1). I employed convenient sampling as described by Smit (2016), in which a facilitator searches for people who share a common interest. The parents' proximity to the school and the ease with which I and they could attend the meetings were advantages of convenient sampling. Furthermore, the fact that parents came to school to pick up their children was convenient since we were able to continue the discussion. I met with an independent recruiter (Mr. B) and explained the study's purpose and objectives. He distributed the flyer that explained the purpose of the study to teachers and parents that could potentially participate in the study (See subsection 1.7.1).

Two female Grade R teachers and four female parents were interested in participating in the study. I met with these teachers and parents. Wood (2019) highlights that it is critical that co-researchers develop relationships by getting to know one another. We started by introducing ourselves and sharing our stories, then we talked about why we wanted to be part of this study. After the introduction, I made participants feel comfortable speaking in their own language, however the data will be translated to English during the transcripts. Sesotho was used as our language of communication, and it was also the language of teaching and learning in the school. As the facilitator, I established a collaborative relationship with the co-researchers, and we formed an action ALS. The main goal of an ALS is to leave with a set of realistic actions that will assist in solving or understanding the issues at hand, including the tools, time, and resources (Diamond et al, 2016). A strong relationship was built in the ALS (Addendum H ethical agreement), and we met regularly. The following table (Table 3.2) presents the profiles of the co-researchers.

Table 3.2: Co-researchers' profiles

Names	Designation	Qualification	Number of years teaching Grade R	Gender	Age	Work sector
CR1	Grade R teacher	Advanced Certificate in Education (ACE)	22	Female	55	DOE
CR2	Grade R teacher	N5 in Educare	6	Female	32	DOE
CR3	Parent	None	None	Female	52	Not working
CR4	Parent	Grade 12	None	Female	27	Not working
CR5	Parent	N4 in public relations	None	Female	23	Not working
CR6	Parent	BEd in Foundation Phase	None	Female	34	DOE

The co-researchers were assigned pseudonyms (CR1 to CR6) ranging from CR1 to CR 6, as shown in Table 3.2 in order to honour the undertaking that they would remain anonymous.

3.6 Data generation methods

According to Apuke (2017), data generation is the systematic process of gathering data on the variables pertaining to a study in order to answer the research questions and evaluate the results (See 1.7). The table below (Table 3.3) shows the data generation methods used to generate data. Each session lasted 40-60 minutes.

Table 1.3: Data generation methods used in the two cycles

ALS Discussion	Purpose of the sessions	Data generation method	Documentation of data	Duration
Cycle One (Current situation)				
Session one	Ethical agreement Relationship building	Discuss roles and responsibilities in the group	Written ethical agreement Written roles and responsibilities	February 08/02/2023
Session two	Challenges in collaboration between Grade R teachers and parents. Strengths and weaknesses	Recorded ALS and photovoice	Drawings with narratives	Second week March 08/03/2023
Session three	Challenges in implementing outdoor PBL	Recorded ALS and photovoice	Collage material	Third week March 15/03/2023
Session four	Experiences and current situation regarding outdoor play	Recorded ALS, photovoice, drawings with narratives and collage		Second week April 12/04/2023
Cycle Two (Social change)				
Session one	Collaboration strategies	Recorded ALS and photovoice		First week May 02/05/2023
Session two	Benefits of outdoor PBL	Recorded ALS and drawings with narratives		Third week May 17/05/2023
Session three	Strategies to implement outdoor PBL	Recorded ALS, photovoice and collage		Fourth week May 25/05/2023
Session four	Implementing the strategies	Recorded ALS, photovoice and collage		Second week June 07/06/2023
Session five	Things we learnt about outdoor PBL; the importance of collaboration and PBL	Reflective journals	Reflection papers	Fourth week June 22/08/2023

Table 3.3 shows the activities that occurred in the two cycles. Cycle One began with a group discussion that introduced the co-researchers, discussed and highlighted the ethical aspects, and briefly discussed the current situation and regarding outdoor PBL, which led us to the first

research question and collage activity. The group discussion in Cycle Two focused primarily on ways to support the development of guidelines for outdoor PBL in Grade R.

3.6.1 Recorded action learning set discussions

Both cycles made use of ALS discussions. The discussions were recorded to focus on the Grade R teachers' and parents' storylines and explore and share their perspectives on their experiences (Wood, 2020). The first ALS started with an ice-breaker activity to put the co-researchers at ease. They shared their perspectives and experiences of outdoor PBL in their children's daily routines. Some ideas and experiences were connected and inspired a conversation while promoting collaboration, building relationships, and discussing the challenges and current situation in ALS one. The meetings lasted 45 to 60 minutes. The ALS discussions addressed the primary question as co-researchers began to identify the challenges and the causes of such.

3.6.2 Drawings with narratives

Drawings and narratives were used in both Cycles One and Two of the ALS study. The drawings were completed at home and discussed during our sessions. Drawings with narratives allowed co-researchers to share their stories without having to write or speak afterwards (Mayaba & Wood, 2015). Everyone made a drawing of the current situation regarding outdoor play and explained it. The ALS was able to understand the current situation regarding outdoor PBL in Grade R. This activity allowed members to share their various skills and creativity; they were able to narrate a story using one another's drawings (See Table 3.3).

3.6.3 Photovoice

Photovoice enabled visualisation to help co-researchers reflect on and communicate the challenges they face as a group in Cycles One and Two (Budig et al., 2018). They were not permitted to photograph children or people, only objects (Table 3.3). In Cycle One, the co-researchers photographed the challenges identified in implementing outdoor PBL in Grade R, and then explained what the photos illustrated. The co-researchers expressed their understanding of contextual challenges visually and then audibly by providing explanations next to the photos related to the issue in the photovoice narrative as suggested by Setlhare et al. (2016).

In Cycle Two, the photos provided more detail about how the co-researchers felt about encouraging the implementation of outdoor PBL in Grade R. During this cycle, they identified guidelines and strategies for promoting outdoor PBL. The photos were used to tell a story and

were accompanied by the transcription of a dialogue between the co-researchers and I, as the co-researchers explained everything in the photo. Our activities required us to collaborate and share ideas. We looked at the photos with the co-researchers to help them to collaborate and understand the challenges the Grade R teachers faced from a broader perspective, resulting in a creative response to build ideas for implementing outdoor PBL.

3.6.4 Collage

Constructing a picture collage allows co-researchers to express their moods, feelings, and ideas, as well as their visual reaction to the stories and how they relate to their lives (Richards et al., 2018). Lengthy activities like collage could not be accommodated in our meetings, but the material was distributed during our ALS, with the co-researchers sharing resources equally and reaching compromises. The collage was created to respond to sub-question 2 (Cycle Two). The collages reflected different stories about developing strategies to promote collaboration and outdoor PBL. In working with different design frames, the collage activities stimulated creativity.

3.6.5 Reflective journals

Wood (2020) defines reflection as a type of focus group discussion that generates substantial, detailed data. She adds that reflective journals promote critical and analytical thinking. This method is frequently used in action research to enable co-researchers to reflect while simultaneously contributing to achieving growth and transformation. Reflective journals were used in this study to enable the co-researchers to critically reflect on the challenges of implementing outdoor PBL, collaboration between Grade R teachers and parents, and strategies to support outdoor PBL for ESD. The journals were also used to assess how co-researchers experienced the ideas presented.

3.7 Data analysis

According to Schildkamp (2019), data analysis is the process of modelling data to derive insights that aid decision-making. Lundberg et al. (2018) state that the two main objectives of data analysis are to develop successful methods to accurately predict future findings and to develop empirical knowledge on the connections between capabilities and responses. Data reduction methods vary depending on the stage of the research, from editing and analysing in the initial phases to coding and memorising in subsequent ones and conceptualising and explaining in the phases that follow (Neale, 2021). Thematic content analysis was employed to identify patterns and themes and give meaning to the co-researcher's ideas. According to Braun and Clarke (2019), this type of analysis

seeks to identify and analyse meaning patterns (themes). This process requires the researcher to comprehend and clarify the data, which requires the development of a conceptual framework and a classification system for the information (Williams & Moser, 2019). I used Braun and Clarke's (2019) six-phase process to analyse the data as follows:

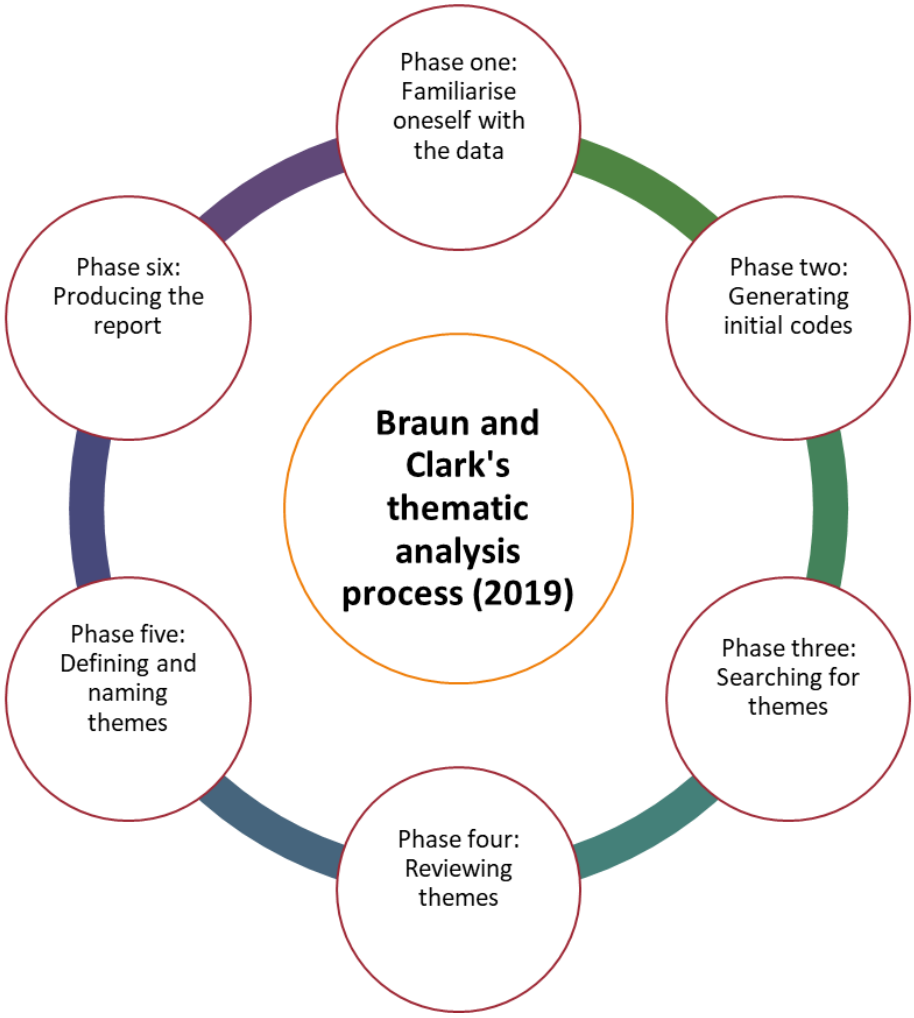


Figure 1.3: Six-phase data analysis process (Braun & Clarke, 2019)

The phases outlined in Figure 3.3 were applied in the following way:

Phase one: The ALS began by listening to the tapes and reading the transcripts.

Phase two: While listening to the transcripts, we grouped the material in order to conduct the coding.

Phase three: We examined each code and began to organise the information we had to develop themes.

Phase four: We reread and reorganised the concepts so that they made perfect sense.

Phase five: After grouping our concepts in order, we began to name and characterise them.

Phase six: I completed a written report.

The first step was converting the raw data from the recorded ALS discussions, drawings, photovoice, and group discussions of the collages into useful ideas to answer our research questions (Figure 3.3). We began by identifying and organising the data. The data was then organised for coding to take place. We divided the information into manageable ALS components. Reading and listening to the data again gave me a better perspective and understanding of how the ALS organised the data into understandable categories. We highlighted important sentences with several highlighters. Thereafter, we identified small pieces of data, and the segments were used to represent codes; some had multiple codes. The ALS visualised patterns and their relationships in order to comprehend the data. We started by identifying themes intertwined with the existing theoretical literature to see how they fit together. Themes were constructed from a collection of codes. The co-researchers' voices and ideas were the most important aspects of the data generation and analysis processes. As a result, their input in identifying the themes was critical. Patterns emerged as we examined the data in as many different ways as possible. In our search for patterns, we sought to discover complex connections between various aspects of the co-researchers' situation. We communicated throughout the analysis to ensure that our valuable inputs were remembered at all times during theme identification and data interpretation. I worked with my co-researchers to integrate, refine, and write up all the theories related to the central challenges.

3.8 Quality criteria

According to Wood (2019), research validity is achieved through various methods such as triangulation and participant confirmation. Connelly (2016) notes that a study's data, interpretations, and methods should be validated to ensure research integrity. The five validity criteria identified by Herr and Anderson (2015) are connected to the goals of action research which are: the process of creating knowledge, fulfilment of action-oriented outcomes, training of both researchers and co-researchers, results that are relevant to the local setting, and a sound and suitable research methodology.

Table 3.4 shows the application of these quality criteria.

Table 3.4: Application of Herr and Anderson's (2015) quality criteria

Criterion of validity	Description of the validity criterion	Objectives of the action research
Outcome validity	To what extent did actions lead to resolution of the problem that motivated the intervention?	The ALS identified the challenges and developed methods to implement outdoor PBL for ESD in Grade R during the ALS meeting (See section 4.2.2.1). The outcome validity of the process was ensured by reflecting on the following question: What steps did we take to support and improve the value of outdoor play, and how did we reflect on the process?
Process validity	Describe any problems you encountered during your intervention and how you avoided them to allow for continued learning.	Generation of new knowledge. Outcomes arise from a series of cyclical considerations such as reflection, problem review, and action. The evidence gathered is sufficient to support the claims.
Democratic validity	Research is conducted in collaboration with all parties interested in the research question. • The processes chosen are ethical and fair to all parties involved.	The question to be answered was: How did all the co-researchers collaborate, and how did teachers and parents collaborate? All the co-researchers had a voice and were respected, as outlined in the ethical agreement (Addendum H).
Catalytic validity	The extent to which the research process is recalibrated, refocused, and energised for participants to perceive and transform reality.	How did we modify the current situation and ensure that outdoor PBL is implemented for long-term development? Participatory Action Learning and Action Research, supported by Community-Based Research, acted as a catalyst for the co-researchers to action to improve the situation. Social change manifested itself, and it was discussed and planned to continue in the future (See section 5.3).
Dialogue validity	Research is done in collaboration with other researchers.	The co-researchers engaged in critical reflection. Involvement of researchers as reviewers and critics of the process.

Adapted from Herr and Anderson (2015)

3.9 Ethical considerations

As noted in Chapter One, the NWU's ethical committee (EduREC) approved my ethical application and authorised me to proceed with the proposed study (Addendum I). The DBE, Free State, also allowed me to conduct research at the selected school (Addendum B). The co-researchers provided informed consent via the approved consent form (Addenda G and D). The process and purpose of the study, as well as the ethical considerations relevant to the research process, were explained to all co-researchers. They were also regularly reminded that their participation was voluntary and that they could withdraw at any time.

Research ethics entails the confidentiality of information, participant anonymity, and co-researcher consent (Surmiak, 2018). As provided in the Belmont Report of 1979, the three fundamental ethical principles that must be followed in all research studies are beneficence, justice, and respect (Friesen et al., 2017). In line with Wood's (2020) recommendation, these formed part of the ethical agreement with co-researchers (Addenda E and F). Informed consent, the risk of harm, anonymity and confidentiality, and conflicts of interest were also addressed in the agreement.

Beneficence

Wood (2020) emphasises the importance of continuous assessment of benefits and risks in PALAR, as new risks may arise during the study. I ensured that the study produced benefits by exploring the challenges and benefits that we anticipated for our study. Furthermore, the co-researchers learned different strategies for data generation. We decided collaboratively on the aspects of PBL for sustainable development in order to ensure that our research is valuable to all co-researchers, the school and the community. The co-researchers discussed ways to compromise in order to obtain outdoor PBL material.

Justice

Wood (2020) highlights the need for informed consent in PALAR studies, enabling co-researchers to choose to participate based on their understanding of the risks, benefits, and ethical contract. To ensure that the research was fair, we agreed to treat one another as equals, and we were all regarded as co-researchers who learned from and coached one another. PALAR co-researchers are chosen at random. The Grade R teachers and parents in my study identified a need to address how outdoor PBL could be implemented in Grade R at their school and community by identifying ways to improve their practice.

Respect

According to Wood (2020), when collaborating on a research project, everyone is equal and should be treated with care and respect. Respect for the people involved in the research process is one of the fundamental ethical principles. The co-researchers' privacy and confidentiality were respected and maintained throughout data generation. No personal information was divulged, ensuring the anonymity of the co-researchers. The co-researchers' autonomy and choices were respected by forming honest relationships that allowed us to collaboratively address the research objectives and questions and generate and analyse data as a team.

3.10 Summary

This chapter presented an overview of the methodology employed to conduct the study. A transformative participatory paradigm was adopted and all its assumptions, including the axiological and ontological assumptions, were discussed. The PALAR research design rests on collaborative teamwork, with co-researchers actively involved in the phenomenon under study. As such, this design was ideal to promote outdoor PBL for ESD. The chapter outlined the data generation methods used in Cycles One and Two and the thematic analysis employed to identify patterns in the data and group themes. The chapter concluded by discussing the study's validity and the ethical considerations taken into account. The following chapter presents, analyses and discusses the findings.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS, AND DISCUSSION OF FINDINGS

4.1 Introduction

In the second chapter, I explored relevant literature on outdoor PBL and discuss the theoretical framework. Chapter Three discussed how PALAR was used as a research design to answer the primary research question: “How can teacher-parent collaboration contribute to promoting outdoor PBL for ESD in Grade R? The ethical considerations, ethical agreement, and measures to validate the study's findings were also discussed.

The aim of Cycle One was to identify the current situation in relation to using PBL in Grade R and the second focused on the strategies that could be adopted to promote its use. This chapter presents the study’s findings in line with the themes identified through thematic content analysis (See section 3.7).

4.2 Findings

Figure 4.1 portrays the main themes and sub-themes that emerged in both cycles following data analysis using Braun and Clarke's (2019) six-phase data analysis method (See section 3.7). In discussing the themes, verbatim statements from the ALS discussions are used as well as artefacts from the visual data generation methods, including photovoice, drawings with narratives, collage and reflective journals. In order to present the data, co-researchers in the ALS were assigned numerical identifiers as portrayed in Table 3.2. The themes and sub-themes are discussed below.

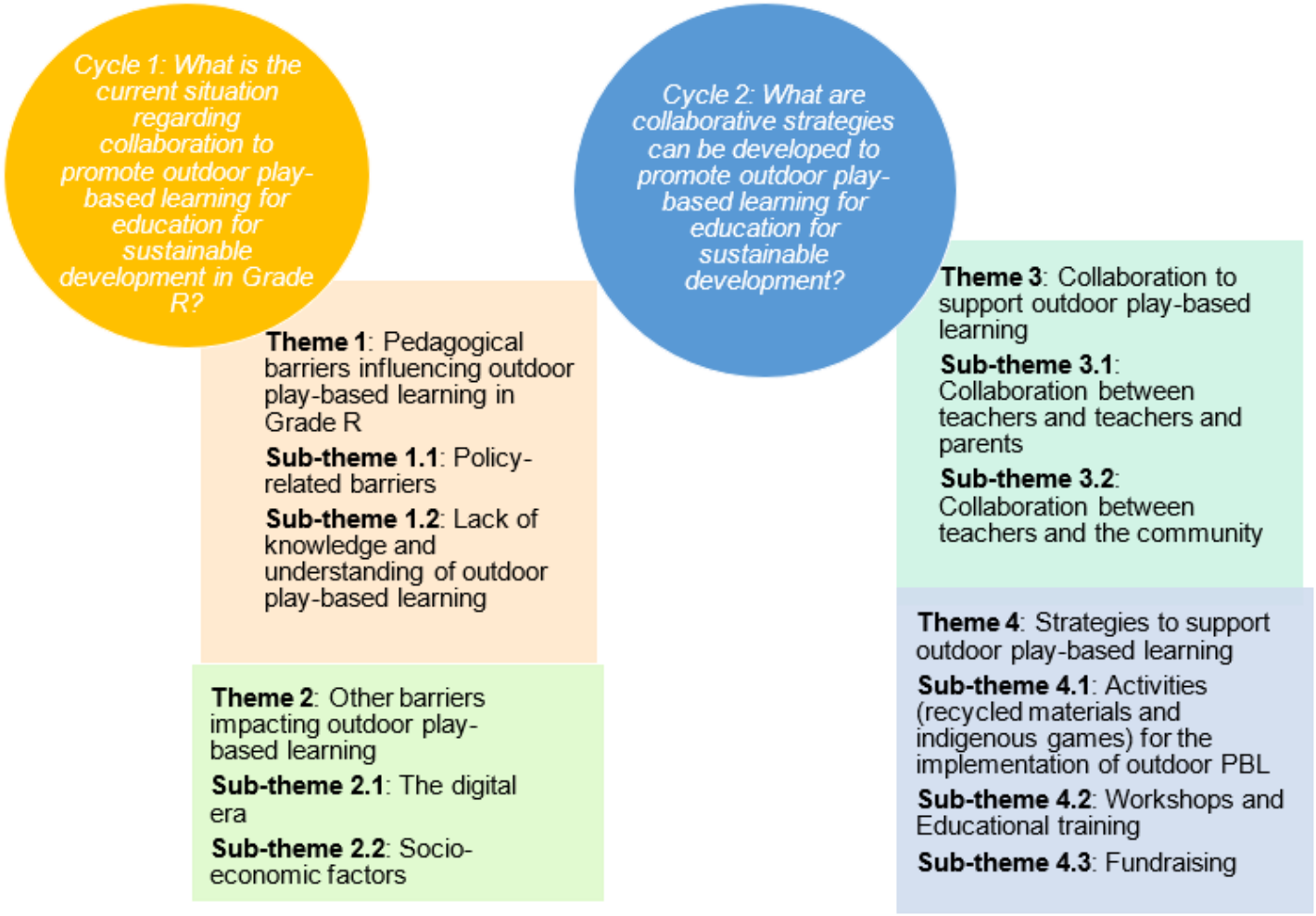


Figure 2.1: Themes and sub-themes that emerged during Cycles One and Two

Figure 4.1 shows that the two main themes namely Pedagogical barriers influencing outdoor play-based learning in Grade R and other barriers impacting outdoor PBL emerged during Cycle One and two Main themes namely collaboration to support outdoor play-based learning and strategies to support outdoor play-based learning emerged during Cycle Two.

4.2.1 Findings from Cycle One

The first cycle focussed on relationship building, agreeing on a shared vision for the research project, signing consent forms (Addenda E and F) and discussing the ethical agreement (Addendum H). It also explored the current situation in relation to outdoor PBL in Grade R (section 2.3.1). During this cycle, data were generated using ALS discussions, photovoice, drawings with narratives and collage (See Table 4.1).

Table 4.1: Data generation methods used in Cycle One

Data generation method	Sessions	Documentation
ALS discussion	1	Ethical agreement Relationship building
ALS discussions and photovoice	2 and 3	Recorded sessions and transcribed recordings
Photovoice, drawings with narratives and collage	4	We took photos with our cell phones, then discussed the current situation in relation to outdoor PBL. We also produced drawings on how we use outdoor play in our current situation and discussed them with the group.

In Table 4.1, it is shown how the data generation methods were used in the different ALS sessions, outlining the specific focus or action taken during each session. During the ALS discussions in Cycle One, the following main and subthemes were identified and will be discussed in the following sections.

4.2.1.1 Main theme 1: Pedagogical barriers influencing outdoor play-based learning in Grade R

The data generated from the ALS discussions, photovoice and drawings with narratives revealed that Grade R teachers experienced pedagogical barriers in implementing outdoor PBL. This resonates with Lungu and Matafwali (2020) and Isaacs et al.'s (2019) findings that pedagogical factors influence the planning and teaching of outdoor PBL for ESD (See section 2.2.1). Two sub-themes emerged, namely, policy-related barriers and a lack of knowledge and understanding of PBL. These sub-themes are discussed in sections 4.2.1.1.1 and 4.2.1.1.2.

4.2.1.1.1 Sub-theme 1.1: Policy-related barriers

The DBE (2022) encourages Grade R teachers to plan activities that impart knowledge and skills through PBL for ESD in Grade R. Outdoor PBL educational methods are essential for children's holistic development (See section 2.3). The teacher co-researchers stated that while they try to take children outdoors to play for ESD, curriculum requirements force them to keep them in the classroom (CAPS, 2014, p 4.) CR1 remarked:

> CR1: *As Grade R teachers, we are given a time limit to cover the content that we teach in class. We have also observed that we are given DBE books as resources to teach Grade R children, which limits our ability to teach children through play.*

According to CR1, Grade R teachers must achieve certain results by the end of the year, with children assessed on formal learning rather than on their perceptual skills (See section 2.5). She added that Grade R teachers find it difficult to implement outdoor PBL because they don't understand the play or outdoor PBL activities that are listed in their lesson plans for ESD.

> CR1: *We have a document that shows all different types of play; many of the plays in the document are unfamiliar to us, and we struggle to explain or demonstrate how they are played to the children.*

As noted in Chapter Two, the (DBE, 2022) defines ECD as a comprehensive approach to programmes and policies for children from birth to age seven. The co-researchers concurred that Grade R teachers are guided by specific ECD policies, but they appeared to be frustrated by lengthy policy guidelines that are difficult to comprehend. This idea implies that they are bound by curricula and policies that they do not understand (See subsection 2.4.2). Another co-researcher explained that she was not trained to use play to teach:

> CR1: *As a teacher, I am only here out of love; I was not trained to use play to teach and I was unaware that children should be allowed to play.*

It can be argued that due to a lack of pedagogical knowledge, Grade R teachers experienced challenges in implementing PBL for ESD in Grade R. Current policy (CAPS, 2014) fail to outline both theoretical and practical frameworks for outdoor PBL Grade R curricula (Isaacs et al., 2019). The other co-researcher added that they have access to policies; however, they do not receive adequate instruction on how to balance the time available with the number of children in class, particularly in rural areas.

> CR2: *We have a lot of different policies that are sent to school, which we see as extra paperwork and repetition, and a lot of different documents are introduced every time, which the department does not always train us Grade R teachers on.*

CR2 elaborated by explaining that the department does share information with Grade R teachers. She added that it appears as if teachers are uninformed, because teachers do not read the documents they have. Although policies direct them and offer appropriate outdoor PBL, CR2 stated that they regard the documents as *'additional paperwork and repetition'*. CR 1 argued that

Grade R teachers experience challenges in interpreting policies and integrating lessons into PBL. CR2 continued that a variety of policies guide them in teaching and learning in Grade R, but they need training on them to achieve the SDGs.

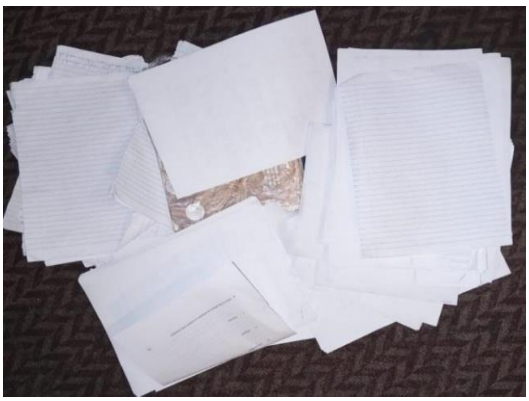
CR 1 elaborated that they are not always sure which policies are relevant:

> CR1: *Teachers really need to attend training because now they are not even sure which policy to use CAPS as they expect teachers to enter children' marks in ASAMS however other policies emphasise outdoor play-based learning.*

The above discussion highlights that teachers are not always sure how to implement outdoor PBL and that Grade R teachers lacked the knowledge and skills required to deliver lessons through outdoor PBL for ESD. This challenge is explored in more detail in the following section.

4.2.1.1.2 Sub-theme 1.2: Lack of knowledge and understanding of outdoor play-based learning

Grade R teachers frequently dismiss outdoor PBL in favour of their preferred activities due to a lack of knowledge and understanding of its benefits and value (Jayasuriya et al., 2016). It appears as if some teachers confuse outdoor PBL with children playing outside for fun (See section 2.3). Furthermore, the co-researchers claimed that they focussed more on formal teaching rather than integrating outdoor PBL into lessons. CR6 gave evidence of the focus on formal work:



CR6: *As a teacher when I look at this picture I think of Grade R children who have written the work and submitted them to me to mark. As we work in schools our leaders are expecting us to formally teach the young children. They even want to see written work and at the end of the term they want us to test them so that they also submit returns to the district office. I think this system is greatly to blame as it makes us to do the wrong things which affect the young children's development.*

Photograph 1: Data extracted from CR6's photovoice

The above photograph and explanation by CR6 suggest that Grade R teachers focus on written activities in the Grade R classroom and lack knowledge on how Grade R children should be involved in outdoor PBL activities to enhance holistic development. This concurs with the literature

reviewed in Chapter Two (See subsection 2.3.1) that notes that the emphasis in Grade R is on reading and writing, especially reciting and recalling the letters of the alphabet (Nel et al., 2016). CR1 went on to say:

> CR1: *I have realised that most of the time Grade R children are reading and writing instead of going outdoors to explore and play.*

While CR1 was aware of the important role of outdoor PBL for ESD in the holistic development of the child, we highlighted the role of formal learning in Grade R classes (See section 2.3). According to Moore et al. (2020), outdoor PBL has been largely overlooked in attempts to promote quality reading, counting, and writing in ECD in South Africa. CR6 also raised the issue of different Grade R teachers adopting different approaches:

> CR6: *I don't understand why we have two Grade R classes and teachers are doing different things in class, are they using the same policies? Others do go outdoors and others do not go outdoors to play.*

She added that there is sometimes a lack of communication and collaboration between Grade R teachers in order to promote outdoor PBL. It appears as if they lacked knowledge and understanding of their roles and responsibilities. According to the literature (See section 2.3), a lack of understanding and knowledge of the value of outdoor PBL leads to its neglect (Ogegbo & Aina, 2020) and failure to successfully implementation of PBLE either at home or in school.

The co-researchers also identified other barriers that prevent the implementation of outdoor PBL.

4.2.1.2 Theme 2: Other barriers impacting outdoor play-based learning

In Cycle One it became apparent that pedagogical and other factors affect the implementation of outdoor PBL for ESD for children to develop holistically. The other barriers are discussed below.

4.2.1.2.1 Sub-theme 2.1: The digital era

The co-researchers highlighted the important role played by the digital era in implementing outdoor PBL in school and at home. They noted that the use of technology affects children's holistic development because they become obsessed with and dependent on it (See subsection 2.3.1). CR3 commented:

> CR3: *Diketo[1] They were helping us with (mind) concentration, you were doing two things at the same time, you were to look up while counting the stones and they were very educational, TV and cell phones make our children lazy.*

This implies that while parents recognise the importance of outdoor PBL, the use of technology has taken priority in their children's developmental process. The co-researchers believed that many children prefer to interact with digital devices rather than play outdoors for ESD, where they can explore and develop holistically (See subsection 2.3.1). Although they are conscious of how technology affects the implementation of outdoor PBL, parents are often not well-informed on how to tackle this issue (Aubrey, 2017). Mhlanga et al. (2020) explain that, in the modern era, the majority of children, particularly boys, prefer to interact with technology and digital games rather than develop their motor skills. A co-researcher noted:

> CR6: *I'm reconsidering because most households now have televisions. We grew up without television, cell phones, or video games; the problem began there.*

This statement implies that before technology was introduced, children spent more time engaging outdoors as well as interacting with nature (See subsection 2.3.2). In Chapter Two it is reasoned that when children did not rely on technology to keep them entertained; they always had enough time to be creative and develop activities that encouraged them to interact and socialise (Tuula & Ingunn, 2020). Given that the social environment in South African townships appears unsafe for children to play outdoors, many children prefer spending time on digital devices than engaging in outdoor PBL activities (Kohli, 2018).

4.2.1.2.2 Sub-theme 2.2: Children's safety

The safety of outdoor PBL activities in the South African context depends on various factors including the outdoor environment, weather or resources. Depending on the location, there are various risks associated with outdoor PBL in South Africa. While they supported the notion of hands-on learning through play, the co-researchers raised the issue of children's safety as well as unsafe school playing grounds.

[1] Diketo is a well-known South African indigenous activity.

Large Grade R classes often result in insufficient monitoring of outdoor PBL activities, posing the risk of fighting and injuries among children. Furthermore, through photovoice, a co-researcher expressed her concern about unsafe playgrounds:

CR5: *Parents and teachers are ignoring know how to use it and it appears unsafe to use, which could harm children and themselves.*

Photograph 2: Data extracted from CR5's photovoice

According to the co-researchers, teachers must ensure that children are healthy when engaging in outdoor play-based activities. Teachers should also have safety measures in place because outdoor activities may cause serious injuries, as noted by Mhlanga et al. (2020). Other challenges raised by the co-researchers included children's backgrounds, poverty, and a lack of resources (UNICEF, 2018). Socio-economic factors are an important consideration when implementing outdoor PBL for ESD in Grade R.

4.2.1.2.3 Sub-theme 2.3: Socio-economic factors

The poor socio-economic conditions in many South African communities impact the implementation of outdoor PBL (ACTPSA, 2017). Isaacs et al. (2019) state that teachers should consider how socio-economic factors impact outdoor play-based learning opportunities because many schools and communities lack financial resources to implement outdoor PBL. The co-researchers noted that poverty and a lack of resources affect children. CR4 claimed:

> CR4: *I believe that the reason why children do not play outside at school is due to poor school maintenance.*

Parents, the community, and school staff share ownership of the school. According to the literature, Grade R teachers lack support from the community, parents, the SMT, and the district team in implementing outdoor PBL (Jay & Knaus, 2018). Gorica et al. (2021) emphasise the importance of collaboration between parents and Grade R teachers to promote children's

education and create a positive learning environment for ESD (See section 2.6). The co-researchers indicated that implementation of outdoor PBL will only be possible if Grade R teachers and parents collaborate to maintain the learning environment (See section 2.4); however, a lack of financial support contributes to poor maintenance at the school.

One of the co-researchers argued that:

> CR2: *Most of us are not working and we don't have money to buy our children toys to play with. We cannot even make the needed contributions to the school when they want us to pay for some resources, they want to use to take our children to play, not to learn. Even in our communities, the parks are vandalised and dirty.*

CR2 stated that parents do not want to get involved especially if they are unemployed. The literature adds that many parents do not attend school meetings because they are afraid that they will be required to make contributions (See subsection 2.4.1). Odgers and Jensen (2020) argue that parents who understand the way children learn are more likely to provide positive reinforcement and less likely to make negative assumptions. It is also noted that that parents may not be supportive because they lack confidence due to their socio-economic status.

A co-researcher pointed to the lack of resources to implement outdoor PBL (See Photograph 3):

CR2: *We do not have kites at school, we had to buy ourselves plastics, get sticks from the tree, and buy wool so that our children could see how kites are played and enjoy them. This was very interesting because it was the first time in a long time that children were outside playing. When children play with kites I[they] earn to solve problem[s] and identifying the direction for their kites to fly higher.*

Photograph 3: Data extracted from CR2's photovoice

The co-researchers concurred that they lack resources for outdoor PBL. Chikwiri and Musiyiwa (2017) state that due to a lack of funding, the majority of rural Grade R settings lack sufficient resources. Discussing these barriers in the ALS assisted the co-researchers to reflect on these issues in order to think about ways to improve the situation.

The co-researchers also noted that some parents are reluctant to allow their children to interact with other children because of their family background, culture, religion, or gender. Radebe and Phoko's (2017) assert that in order for parents to be involved in the education of their children we need to embrace Ubuntu and acknowledge one's humanity through interaction with others.

4.2.2 Findings from Cycle Two

In this cycle, the ALS discussed how to assist parents, Grade R teachers and communities to collaborate to achieve the SDGs (See Subsection 3.3.2). According to Wood (2019), researchers need to understand phenomena and situations from the point of view of those who experience them. Establishing a relationship based on mutual respect and trust, and working together to come up with solutions to challenges ensured the success of this research project. In this cycle data were generated using ALS discussions, photovoice, drawings with narratives, collage and reflective journals (See Table 4.2).

Table 4.2: Data generation method used in Cycle Two

Data generation method	Sessions	Documentation
ALS discussions, photovoice and drawings with narratives	5 and 6	Recorded sessions and transcribed recordings
ALS discussions, photovoice and collage	7 and 8	We took photos with our cell phones, then discussed strategies to support outdoor PBL. We made a collage to express and discuss the importance of collaboration to support outdoor PBL.
ALS discussions and reflective journals	9	We wrote down our reflections and shared them.

Table 4.2 illustrates the data generation methods used during Cycle Two. The themes and sub-themes that emerged during this cycle are discussed below.

4.2.2.1 Main theme 3: Collaboration to support outdoor play-based learning

According to the data generated by the ALS discussion, photovoice, drawings with narratives and collage, Grade R teachers and parents need to promote collaborative strategies for the implementation of outdoor PBL. Wood (2020) states that collaboration is critical because all members of the group need to participate and share ideas for social change (See section 3.3.2).

As illustrated in the following excerpts, the co-researchers believed that collaborating to promote outdoor PBL for ESD in Grade R is a viable option.

> CR6: *I believe that [when] … teachers and parents … collaborate, they learn from one another, just as we did when we shared our experiences and knowledge. Parents and teachers worked as a team to fix the swings and repaint the games on the floor.*

This response implies that when Grade R teachers and parents collaborate and share ideas and strategies, they develop a strong team as they learn the benefits of implementing outdoor PBL from one another. It also suggests that the co-researchers acknowledged that they had various skills to share in order to promote collaboration for the implementation of outdoor PBL for ESD in Grade R (See subsection 3.3.2). According to Wood (2020), ALS discussions in PALAR help co-researchers to develop lifelong learning skills, enabling them to grow their abilities as leaders beyond the research project. One of the co-researchers shared this collage:

CR5: *This is a collage I made of a tree that represents collaboration. We have where the tree's roots begin and the grass, which indicate where we come from in our backgrounds. The trunk represents collaboration, which is our surname for this project, and the leaves represent our names and roles in the collaboration family. On the side, we have happy flowers, which demonstrate the success of the collaboration at the end of this project.*

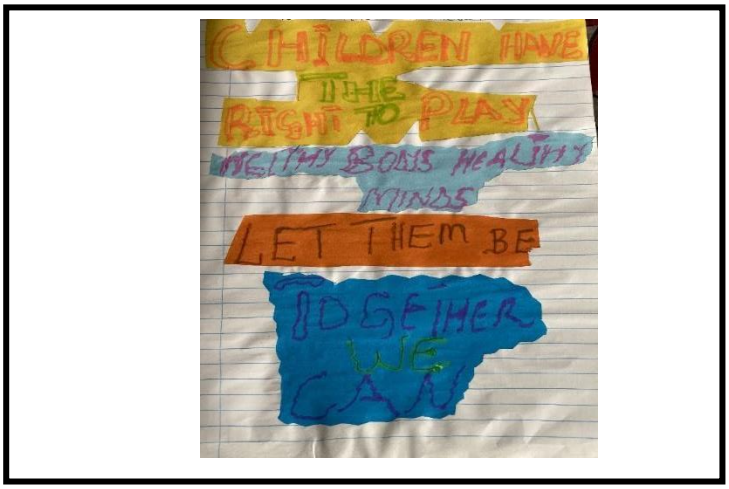
Collage 1: Data extracted from CR5

CR5's collage and remarks indicate that in order to form a team to collaborate, those involved first need to get to know one another very well (See subsection 3.3.2). The co-researchers noted that when Grade R teachers and parents collaborate to promote outdoor PBL, they understand one another's differences and support one another since people have different strengths and weaknesses (Wood, 2019). CR5's reference to '… *happy flowers….'* suggests that achieving the goal of implementing outdoor PBL will keep parents and teachers happy and motivated to effect more changes. Parents that realise the benefits of outdoor PBL for ESD will recognise the value

of their children engaging in such activities; collaboration will make parents aware of the information they lacked (See section 2.5). The following sub-section discusses collaboration between teachers and teachers and parents.

4.2.2.1.1 Sub-theme 3.1: Collaboration between teachers and teachers and parents

The literature emphasises the importance of collaboration between parents and Grade R teachers to promote outdoor PBL (See Subsection 2.6.2). The co-researchers proposed that teachers, Grade R teachers, and parents meet at regular intervals to build relationships and collaborate to support outdoor PBL for ESD in Grade R. CR 4's drawing highlighted that collaborative efforts would enable children to enjoy the benefits of outdoor PBL:



Collage 2: Data extracted from CR4

The words "Together we can" in Photograph 5 highlight that when teachers and parents are aware of the benefits of outdoor PBL for children, they work together to implement it. CR5 emphasised that parents and Grade R teachers have a responsibility to ensure that children have the opportunity to play and express their feelings through outdoor PBL. This result is inspiring since collaboration will build confidence and trust among teachers and parents. It concurs with Viskovic and Visnjic Jevtic's (2017) assertion that parent-teacher collaboration can benefit children's learning (See section 2.5).

CR6 highlighted the importance of positive communication between parents and teachers:

> CR6: *When parents have a problem, they must come to school and discuss it with the teachers; this can establish a relationship between teachers and parents.*

Such communication will enable any challenges to be discussed. The other co-researchers agreed, noting that Grade R teachers encouraged parents to visit school on a regular basis so that they could collaborate and observe what their children are learning. This suggestion is consistent with the literature, which highlights that parents' participation in their children's education promotes academic achievement in school (See section 2.3.6). Bang (2018) also asserts that collaboration between parents and teachers can improve effective communication between Grade R parents, teachers, and children. CR2 concurred:

> CR2: *I believe that … [should be] parents … visible, … come to school, interact with teachers, inquire where they don't understand, come to ask teachers for advice, especially when they try to take their children outdoor to play.*

Piersol et al. (2018) state that it is a norm that parents only attend general parent meetings. The co-researchers suggested that Grade R teachers' make parents feel welcome to attend school at any time to support Grade R teachers and their children during the implementation of outdoor PBL for ESD. CR6 was of the view that parental involvement is essential because when both parties collaborate to shape and mould the future of their children, their performance and behaviour improve. It is also important that members of the broader community collaborate with patents and teachers to successfully implement outdoor PBL (Kohli, 2018). In the ALS, we recommended the following strategies to improve communication and collaboration:

- A WhatsApp group for parents and Grade R teachers. However, given that, due to poverty, many parents cannot afford smart phones and data, other means of communication were also considered.
- A book in which teachers and parents write messages to one another that children carry between home and school.
- Monthly school meetings to monitor children's progress and formulate plans to improve and integrate lessons with outdoor PBL.

In order to begin the process of enhancing collaboration, we outlined a few fundamental strategies that could benefit both Grade R teachers and parents. Apart from a group chat on WhatsApp, parents should be encouraged to clean the school each month, with quarterly parents' meetings. Grade R teachers and parents were also encouraged to plan lesson together on a weekly basis and to exchange messages in the communication book. CR5 drafted in her reflective journal an example of a message that could be included in this book:

Dear ma'am 31/07/2023

since we have this communication book our communication has improved, please remind all parents that it is the end of the month and we are expected to meet as per our agreement to plan outdoor PBL activities for this month. I have few ideas that I would love to share with teachers and parents. Please ask parents to bring old cottons and dried beans/corns/peas/ beads then I will bring my own swing machine to make our own beanbags.

Reflective journal: Data extracted from CR5

Other parents and teachers were enthusiastic about the idea of the WhatsApp group chat and communication book. They began to use them and joined the ALS to learn more. Community members liked the idea of cleaning and supporting the school and decided to help as their children would enter Grade R in 2024. The following sub-section discusses collaboration between Grade R teachers and the community.

4.2.2.1.2 Sub-theme 3.2: Collaboration between teachers and the community

As stated in Chapter Two, the literature highlights the importance of communication, especially when a group of people collaborates to achieve a goal. Collaboration between Grade R teachers and the community has the potential to improve the lives of children and members of the community (See section 2.6) by learning about the importance of collaboration, as well as the need to ensure that outdoor PBL activities take place at schools and in the community. The data showed that members of the community were also able to contribute their skills and knowledge regarding how to support collaboration and put strategies in place to implement outdoor PBL. CR5 remarked:

> CR5: *The Grade R creches in our community are better and of higher quality. They host educational activities for children, and parents are welcome to attend with their children.*

This indicates that members of the community participate in and support the Grade R crèches because they benefit and are involved in their programmes. Grade R teachers collaborated with the community to promote the implementation of outdoor PBL and help Grade R teachers and parents to improve collaboration (See section 2.6). Another co-researcher expressed her support for collaboration in a collage:

CR1: *Children enjoy seeing parents and teachers collaborate, they enjoy playing outside to learn and have fun, they enjoy healthy environments and seeing everyone around them happy, and they enjoy learning through play and seeing their future bright. This is a child's heart.*

Collage 3: Data extracted from CR1

This collage indicates that the co-researchers recognised how important it is for everyone involved in children's lives to be a part of their educational and developmental process for ESD. It is in line with Munje and Mncube (2018) claim that Grade R teachers are now aware of the need to facilitate collaborative initiatives that will motivate and support parents to engage in their children's educational journey throughout the year. CR1 highlighted that Grade R teachers and parents should encourage collaboration and build strong relationships with the community. For example, community members should be involved with teachers in various activities to improve the outdoor space so that outdoor PBL activities can be implemented. CR5 noted that:

> *The Grade R crèches host outdoor play activities for youth to participate in, such as netball for both girls and boys, soccer for both boys and girls, and chess in which children will win prizes donated by all community members. On certain days, they host indigenous activities such as diketo, dibeke, kgathi, and others, where children will spend their vacations enjoying and eating.* [CR5]

The co-researchers recommended that community members and teachers engage in activities after school and on weekends where stakeholders, parents, and SGB members contributing to the implementation of outdoor PBL drawing on their skills and knowledge. CR5 suggested that such collaboration should be sustained and overseen by Grade R teachers and parents. The literature notes that community members' involvement is not as widespread in South Africa as it is in other countries, such as the US (Munje & Mncube, 2018). However, community members were willing and enthusiastic about supporting outdoor PBL and agreed to clean the Grade R

space with the teachers. CR6 provided evidence of community members collaborating with Grade R teachers to clean the school.

Photograph 4: Collaborating to clean the Grade R space

Photograph 4 depicts a collective effort by parents, community members, the SGB and Grade R teachers to clean the Grade R space in order to implement outdoor PBL. This initiative was launched due to community members' realisation that it would benefit their children. They planned to visit the school on a weekly basis to clean after school. This will enable teachers to oversee the work. They also shared their expertise and began to recycle material (See subsection 4.2.2.2.1). The following sub-section focuses on strategies to promote outdoor PBL.

4.2.2.2 Main theme 4: Strategies to support outdoor play-based learning

In Cycle Two, the co-researchers proposed strategies to support outdoor PBL for ESD in Grade R. As outlined in the literature review in Chapter Two, teachers and parents can adopt a number of low-cost strategies to promote outdoor PBL in Grade R for ESD. CR2 explained how this could be achieved:

> CR2: *As parents and teachers, we began to support and participate in school sports day every Wednesday in order to provide a safe playing environment for our children.*

According to Masabo et al. (2017), parents contribute to the holistic development of their children when attending school on designated days. The co-researchers indicated that it is important for parents to work with Grade R teachers to ensure that children are safe and secure during outdoor PBL, as well as to support strategies to implement it. During the ALS discussion, it was noted that parents volunteered to clean the play area in front of the Grade R classes. CR4 shared a photo of the clean playing space:

CR4: *As parents, we volunteered to come clean in front of Grade R classes where children can play. We realised we needed to come clean and help the school after discussing how we could collaborate to support teachers in implementing outdoor play-based learning.*

Photograph 5: Data extracted from CR4's photovoice

The suggests that parents understood the importance of being involved in their children's learning (See subsection 2.3.6). The co-researchers went the extra mile to clean because they wanted their children to experience the benefits of outdoor PBL for ESD. They began to think collaboratively and identify and apply strategies to promote and implement outdoor PBL.

4.2.2.2.1 Sub-theme 4.1: Activities (recycled materials and indigenous games) for the implementation of outdoor PBL

Many Grade R teachers experience challenges to implement outdoor PBL due to a lack of resources (See subsection 2.4.1). The current study found this to be the case as the school is situated in a poverty-stricken area. Chen (2016) suggests that Grade R teachers and parents should create their own outdoor PBL resources from waste material, for example using metal and old rope to make a swing. Modise (2021) concurs and recommends that they recycle and reuse material in order to implement outdoor PBL for ESD. The co-researchers discussed this idea. For example, CR2 suggested:

> CR2: *We can ask our children to bring old papers like everything that is old … to school*.

While this implies that children would be actively involved, the co-researchers noted that this did not imply that children should actively search for material, but rather that parents would send it via their children to school. In Chapter Two, it was highlighted that different types of material can be utilised for different purposes (Modise, 2021). Another co-researcher commented that they should collect as much material as possible and that all the children in the school could be asked to support this effort:

> CR4: *How about we have waste bins available for children to drop off material collected. We should not choose but accept all for example cottons to make bin bags.*

This demonstrates that the co-researchers supported the strategy of reusing recycled material to create outdoor PBL resources because they were aware that they are unable to afford resources due to poverty. They agreed that involving children to help collect material could support collaboration within the community. The data gathered during the ALS showed that members of the community, parents, and teachers collaborated to group the material collected and share ideas, skills, and talent to create resources. It is evident that the Grade R teachers and parents are dedicated to implementing outdoor PBL since they continue to work after school and attend school on a weekly basis. The following photograph illustrates community members, Grade R teachers and parents coming together to create outdoor PBL resources:

Photograph 6: Reusing recycled material

CR5 suggested that communication between the Grade R teachers and parents had improved, and that recycling could support the implementation of outdoor PBL. The co-researchers went on to share their evidence:

Photograph 8: Data extracted from the co-researchers' evidence of recycled material

The co-researchers developed a sound strategy to recycle material to create outdoor PBL resources for ESD. The resource shown in photograph 8 can be used when children are being taught indigenous games. These concurs with Literature in (subsection 2.3.2.5), which highlight that when children acquire knowledge on how to use recycled materials to play indigenous games at a young age, they understand its importance (Johnson et al., 2019).

Mosimenge (2020) explains that the use of indigenous games prepares children to engage with the environment which help them to develop holistically as they remember what the learnt throughout their lives (subsection 2.3.2.5). During the discussion CR6 explained how indigenous games can be incorporated to promote outdoor PBL for ESD.

> *CR6: Indigenous games do not only help when teaching children but they can also help us during our workshops to play as all members of the community, because we learn a lot from such games.*

The preceding verbatims from ALS discussions emphasised the significance of indigenous games in relationship building. There is concurs between the finding and literature in Chapter Two where, Muhammad et al. (2018) explain how Indigenous games promote social relationships by teaching children to adhere to traditional norms and standards as well as recognise and adapt to their sociocultural environments. It is also stated that indigenous games and outdoor PBL activities

prepare children physically and cognitively for real-life situations (2.3.2.5) in order to improve their inventiveness and critical thinking skills (Gutierrez et al., 2022). CR5 went on to say:

> *CR5: It important that as parents we set aside were we host an event were indigenous games such as diketo, dibeke, kgathi, and others, can be showcased and children spend their vacation learning their cultural beliefs as well as enjoying and eating with us.*

The statement from CR5 and CR6 emphasises that Grade R teachers and parents collaborate to share their skills and knowledge by playing indigenous games using recycled materials created by them as they allow their children to discover other cultural ideas for ESD. Indigenous games have been utilised to teach and collect knowledge, as well as 'intellectual skills, cognitive strategies, behaviours, and motor skills' (Bayeck, 2018). The notion of combining indigenous games with outdoor PBL for ESD in Grade R was embraced by co-researchers. While the collaboration of parents and Grade R teachers to use recycled materials to build outdoor PBL resources is highly excellent, they still require education and training to aid them in implementing outdoor PBL. The ALS deliberated on a workshop/educational training method to supplement outdoor PBL for ESD.

4.2.2.2.2 Sub-theme 4.2: Workshops and educational training

Madondo (2020) points out that although Grade R teachers are often aware that outdoor PBL should be implemented, they neglect it as they do not appreciate its importance. In addition, many are not qualified to teach Grade R, while others are qualified but lack knowledge, and some require training to implement outdoor PBL (Leech et al., 2022). The co-researchers recognised the need for training to equip both Grade R teachers and parents with the skills and knowledge required to implement outdoor PBL. CR2 related that previous training had assisted her in embracing outdoor PBL for ESD in Grade R:

> CR2: *As a Grade R teacher, educational training enabled me to understand the value of outdoor play-based learning and distinguish between the benefits of indoor play.*

On-going training will enhance professional knowledge and skills and introduce Grade R teachers and parents to various approaches to the implementation of outdoor PBL for ESD in Grade R (See section 2.4.2). CR5 commented on the importance of short courses for professional development:

CR5: *We gained so much knowledge, skills, and values, talents and creativity have been expressed, but I still believe that teachers need to take short courses to understand Grade R policies.*

The co-researchers stated that by registering for short ECD courses, they gained a great deal of insight and knowledge of the benefits and strategies for supporting outdoor PBL for ESD in Grade R. According to Leech et al. (2022), training programmes offer significant benefits. The authors recommend that Grade R teachers should attend training on ECD topics on a regular basis to enhance their knowledge and keep up to date with new developments (See 2.6). CR 1 described her PBL workshop experience as follows:

CR1: *The workshops taught us how to properly prepare as well as allow children to learn through play rather than focusing on formal assessment.*

In the ALS group's workshop, a Grade R facilitator presented strategies on how to promote outdoor PBL in Grade R. The policies for Grade R were summarised so that the teachers could understand how to incorporate outdoor PBL into lessons and how to evaluate children through outdoor PBL. The co-researchers were briefed on strategies to apply in their schools and how to evaluate progress. all

Photograph 9: Co-researchers attending training

All co-researchers, teachers, and a few community people came to support the study. The difficulty was that they were hesitant to participate at first, fearing that they would be exposed as uneducated. However, it was clearly stated that the goal of the workshop is to learn from everyone in the room.

The co-researchers were enthusiastic about a workshop, but financial and time implications were of concern. A mini-workshop was organised for Grade R parents, Grade R teachers and Foundation Phase teachers in order to sensitise them to the significance of outdoor PBL as well as the importance of working together to provide outdoor resources in the school. The co-researchers suggested that an ECD specialist at the DBE be invited to facilitate it. It was also suggested that neighbouring school principals and Grade R teachers be included. CR4 added that:

> CR4: *We can organise our own educational training and invite other neighbouring schools so that we learn from each other.*

Photograph 10: Mini-workshop

I was able to organise a 30 to 45-minute workshop with a Grade R facilitator for the co-researchers and a few Grade R parents. Two mini-workshops were also held with Grade R teachers and parents from neighbouring schools. The co-researchers, other Grade R teachers and I presented the mini-workshops. The co-researchers reflected on the way in which the training was conducted and discussed the importance of such activities. The workshops were extremely beneficial because different teachers shared their strategies to support outdoor PBL for ESD in Grade R. They discussed how to facilitate outdoor PBL with a large group of children, which was very practical, as well as the importance of involving Foundation Phase teachers. We will continue to host mini educational training sessions at the school and evaluate the implementation of outdoor PBL for ESD in Grade R, as well as various methods to support outdoor PBL that may be applicable in future. The co-researchers recommended that, in order for the workshops to continue, we need to invite principals and officials from the DOE to present the study's findings and recommendations.

The following sub-section focuses on the external and internal challenges of funding.

4.2.2.2.3 Sub-theme 4.3: Fundraising

It was noted in Chapter Two that external and internal funds are required to implement outdoor PBL in Grade R (Mohangi et al., 2016). Sufficient long-term funding is required to guarantee that there are sufficient teaching and learning resources, infrastructure, and other resources to do so (Chikwiri & Musiyiwa, 2017). The co-researchers identified socio-economic challenges in implementing outdoor PBL (See subsection 2.4.1) and considered how funds could be raised to assist Grade R teachers and parents to implement it in Grade R. It was observed that:

> CR2: *If we are successful in obtaining funding for outdoor play-based learning, we will be able to implement and monitor outdoor play-based learning.*

Inadequate funding can limit children's opportunities to explore outdoors (Chen, 2016). CR3 agreed and suggested that:

> CR3: *We can write letters to different stakeholders around for donation of Grade R material, however we should not wait for them, instead start raising our own funds.*

The co-researchers recognised the importance of both external and internal funding, with CR3 stating that they do not have time to wait for external stakeholders but should rather start to raise funds themselves. CR1 agreed and made some fundraising suggestions:

> CR1: *At school, we hold fundraising events such as allowing children to wear private clothes and pay, hosting events, educational tours, and having a tuck-shop.*

The co-researchers were of the view that each fundraising event should be directed towards a specific purpose. The funds should be directed where they are able to make a positive impact, and parents should be informed of the amounts raised. Although fundraising should not be the focus of outdoor PBL, the findings of the current study highlighted the need for funds to promote outdoor PBL. The ALS organised the following events, with the details and dates planned during its meetings (See Addendum J):

Photograph 11: Fundraising events

The first initiative involved a fashion show organised at the school, where teachers, parents and children participated. Teachers participated by paying a registration fee, children served as models and parents contributed through small entrance fees. The funds generated were dedicated to purchase resources that could be used for outdoor PBL. To ensure sustainability, monthly events were planned, with the last day of each month designated for activities. Collaborating closely with parents, teachers and the Finance and Learning Support Material committee, a budget and resource list could be formulated (See Addendum K). A procurement process is in process, and it is expected to be concluded by the end of 2023. The aim is to ensure that events will persist as the co-research team extends its influence on other school communities (See Addendum J).

The co-researchers valued outdoor PBL as an educational approach and made plans to incorporate experiential learning through play in outdoor spaces. While children are encouraged to explore the outdoor environment, there were some challenges in this specific research context. While fundraising should not be the central theme in using outdoor PBL, the outcomes of this research underscore its importance in the South African context. The ALS therefore coordinated events to create resources and to develop skills and knowledge when using PBL.

Parents and community members acknowledged the value of children to learn from outdoor play for holistic development, and collaboration is further emphasised by inviting the Foundation Phase children to join outdoor Grade R PBL lessons.

4.3 Summary

This chapter reported on the study's findings in relation to the research questions in both cycles. Chapter Three aimed to answer the question: "What is the current situation regarding

collaboration to promote outdoor PBL for education for sustainable development in Grade R?" The co-researchers identified different barriers that negatively affect the implementation of outdoor PBL in a specific context. The themes that emerged highlighted pedagogical and other barriers experienced by the co-researchers. During the discussions in Cycle Two the co-researchers envisioned ideal outdoor PBL situations in order to respond to the research question: "What collaborative strategies can be developed to promote outdoor PBL for education for sustainable development?" The following themes emerged during this cycle: Collaboration to support outdoor PBL and strategies to support outdoor PBL for ESD. The chapter also discussed the action plans developed by the ALS group in order to address the challenges.

The following chapter provides a conclusion and recommendations for further research.

CHAPTER FIVE

SUMMARY, REFLECTIONS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

My experience as a Foundation Phase teacher motivated me to undertake this study. I observed that Grade R children are taught formally in class and only have the opportunity to play outdoors during lunchtime. Since I understood the importance of outdoor PBL, I was interested in conducting research on outdoor PBL in Grade R. Given that it seemed that parents do not collaborate to support Grade R teachers, I explored how collaboration between teachers and parents could support the implementation of outdoor PBL for ESD in Grade R.

The study was conducted in School X in the district of Fezile Dabi, Sasolburg Municipality, Free State, South Africa. It was undertaken in collaboration with six co-researchers to generate and analyse data to answer the research questions. The findings emanating from Cycles One and Two that were discussed in Chapter Four indicate that pedagogical and other barriers influence the implementation of outdoor PBL in Grade R. Grade R teachers understand that outdoor PBL allows children to develop holistically, but there is a lack of understanding and knowledge to implement it. These teachers also argued that taking children outdoors to learn from play took time away from formal teaching and learning. In addition, barriers such as technology and socio-economic factors affect the implementation of outdoor PBL in Grade R. The findings suggest that a collaboration between parents and teachers could support outdoor PBL.

This chapter explains how the research questions were addressed. It also provides an overview of each chapter, as well as a reflection and conclusion.

5.2 Summary of chapters

5.2.1 Chapter One: Background and orientation

The first chapter presented the background and orientation to the study. The theoretical framework was outlined, and a brief overview of the research approach and research methodology is presented. Lastly, the chapter highlighted the quality criteria applied to promote credibility (See section 1.9) and the ethical considerations that underpinned the study (See section 1.10).

5.2.2 Chapter Two: Outdoor play-based learning in Grade R

This chapter presented a literature review and the theoretical framework, Vygotsky's social constructivism theory (1968) that informed and supported the research (Section 2.2). It provided a comprehensive explanation of outdoor PBL and how it can be used to support the holistic development of Grade R children (Section 2.3). The benefits as well as the challenges confronted in implementing outdoor PBL for ESD in Grade R were discussed (Sections 2.4 and 2.5). The importance of a collaboration between Grade R teachers and parents to support outdoor PBL was explored in order to identify how such collaboration could be harnessed to advance the use of outdoor PBL for ESD in Grade R.

5.2.3 Chapter Three: Theoretical justification for the methodology

This chapter expanded on the research methodology and methods employed to answer the research questions presented in Chapter One. The selection of a participatory and transformative paradigm to guide the study was justified (Section 3.3.2) and I explained how PALAR was used as the research design. The chapter described the use of collage, photovoice, drawings with narratives and reflective journals as methods to generate data through a participatory approach (Section 3.6). The value of collaboration between Grade R teachers and parents was discussed, as well as how the two cycles were utilised to explore the research questions (Section 3.3.2). The chapter concluded by discussing the ethical agreement, integrity and ethical considerations (Section 3.8).

5.2.3 Chapter Four: Data presentation and analysis, and discussion of findings

This chapter reported on the study's findings and discussed the patterns and themes that emerged during the data generation process. The data analysis revealed the main themes and sub-themes that emerged during the study's first and second cycles. The themes and sub-themes included (See Table 4.1):

Theme 1: Pedagogical barriers influencing outdoor play-based learning in Grade R

- Sub-theme 1: Policy-related barriers
- Sub-theme 2: Lack of knowledge and understanding of outdoor play-based learning

Theme 2: Other barriers impacting outdoor play-based learning

- Sub-theme 1: The digital era

- Sub-theme 2: Children's safety
- Subtheme 3: Socio-economic factors

Theme 3: Collaboration to support outdoor play-based learning

- Sub-theme 1: Collaboration between teachers and teachers and parents
- Sub-theme 2: Collaboration between teachers and the community

Theme 4: Strategies to support outdoor play-based learning

- Sub-theme 1: Sub-theme 4.1: Activities (recycled materials and indigenous games) for the implementation of outdoor PBL
- Sub-theme 2: Workshops and educational training
- Subtheme 3: Fundraising

5.3 Answering the research questions

The study was guided by the following main research question: How can teacher-parent collaboration contribute to promoting outdoor play based-learning for education for sustainable development in Grade R?

The following sections show how the research questions were answered by reflecting on the information gathered.

5.3.1 What is the current situation regarding collaboration to promote outdoor play-based learning for ESD in Grade R?

During the initial relationship-building stage, the co-researchers met on a regular basis to discuss their personal experiences and understanding of outdoor PBL. They discussed the challenges that they encountered in implementing outdoor PBL and collaborating as teachers and parents (See subsection 4.2.1). The co-researchers reported numerous challenges in seeking to implement outdoor PBL for ESD in Grade R, including a lack of resources, unqualified Grade R teachers, a lack of collaboration between Grade R teachers and parents, and policy-related barriers.

The findings suggested that the co-researchers lack knowledge and skills of outdoor PBL. Some of the co-researchers were of the opinion that outdoor PBL involves children playing outside without supervision (See subsection 4.2.1.1.2). However, the literature defines outdoor PBL as children playing outdoors to explore and solve problems, as well as interact with their

surroundings (Loebach & Cox, 2022). The Grade R teachers admitted that they neglected outdoor PBL because they focussed more on formal teaching and learning (See subsection 4.2.1.1.1). The co-researchers raised the need for education and training to gain more knowledge and skills in order to implement outdoor PBL for ESD in Grade R. This reasoning is in line with Isaacs et al. (2020) who identify inadequate understanding of policies and limited resources as reasons why PBL is not implemented (See section 2.4.).

According to Chen (2016), a lack of resources due to socio-economic factors in the community and parents' concerns regarding children's safety contribute to the failure to implement outdoor PBL. Some of the co-researchers also stated that children were kept in the classroom because they are concerned about their safety given that the school environment is in poor condition (See subsection 4.2.1.2.2). Parents highlighted that even at home, they prefer to keep their children indoors because it is unsafe for them to be outdoors (See section 4.2.1.2.2). For some parents it was easier to give their children cell phones with data instead of using outdoor PBL to stimulate their holistic development (See subsection 4.2.1.2.1).

Once the ALS identified the barriers that prevent the implementation of outdoor PBL, the co-researchers collectively focused on strategies to promote collaboration between Grade R teachers and parents to minimise these barriers, identify strategies and implement them to promote outdoor PBL for ESD in Grade R.

5.3.2 What collaborative strategies can be developed to promote outdoor play-based learning for education for sustainable development in Grade R?

The aforementioned question prompted us to develop strategies to support Grade R teachers and parents in promoting outdoor PBL for ESD in Grade R. During Cycle Two's ALS discussion, we reflected on Cycle One. The findings were grounded in reality, including the voices of all the Grade R teachers and parents who worked collaboratively towards a common goal. Collaboration and strategies to support outdoor PBL were highlighted as two important themes.

Given the lack of collaboration between parents and Grade R teachers, the co-researchers developed strategies to improve their relationship and communication so that they could implement outdoor PBL. A communication book was used to improve their communication (See section 4.2.2.1.1). The co-researchers also emphasised the importance of improving teacher-teacher relationships and involving parents, Grade R teachers, and the community.

Figure 5.1 presents the overall action plan developed to promote collaboration and support Grade R teachers and parents to implement outdoor PBL for ESD in Grade R.

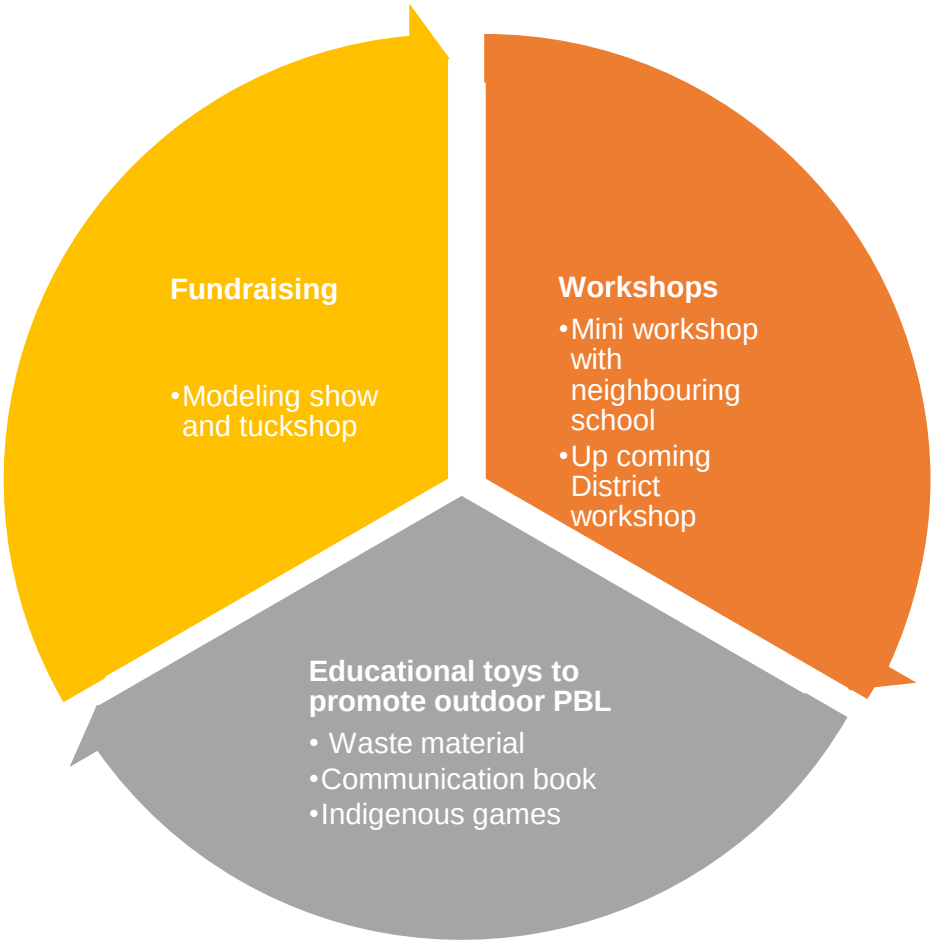


Figure 3.1: The action plan that emerged during Cycle Two

These strategies are discussed below.

- **Activities (recycled materials and indigenous games) for the implementation of outdoor PBL**: Waste material was creatively repurposed for outdoor PBL for ESD in Grade R (See subsection 4.2.2.2.1). The co-researchers, parents, and children collected various material including plastics to braid skipping ropes and create small to large balls for throwing, catching, and kicking activities to improve fine and gross motor skills, as well as eye-hand coordination. Tins or cans were used to make balancing slits, recycled lollipop sticks to make two- and three-dimensional shapes with plastic bottles for toy vehicles and dolls, and tiers for garden decorations and climbing (See subsection 4.2.2.2.1). Furthermore, the resources used to promote outdoor PBL activities, as well as indigenous games, were introduced to children to promote sustainability, as they will be able to use their skills in the future to create resources and integrate learning with

outdoor PBL activities and indigenous games. These indigenous games helped children to embrace different cultures and beliefs in their environment. The Grade R teachers and parents utilised a communication book to ensure that their communication and planning were not restricted to meetings. The co-researchers suggested meeting each term to add material and create new outdoor PBL resources.

- **Workshops and educational training**: The Grade R teachers and parents expressed the need for training to acquire new knowledge and skills to promote effective implementation of outdoor PBL for ESD in Grade R (See subsection 4.2.2.2.2). The co-researchers and I attended a workshop on 20 July organised by the Grade R facilitator at School X. The co-researchers and I subsequently organised two mini-workshops on 2 and 3 August at School X for invited Grade R teachers and parents. I initially proposed that we host a workshop facilitated by an ECD specialist and invite district officials and provincial officials as well as school principals from the cluster, Grade R teachers, and parents (See subsection 4.2.2.2.2).
- **Fundraising**: Grade R teachers and parents collaborated to arrange fundraising events in order to buy outdoor PBL resources (See subsection 4.2.2.2.3). We created an *ad hoc* committee to raise funds for outdoor PBL resources. We drafted a list of activities we wanted to host and projected the amounts we hoped to raise as well as the resources we needed to purchase. We hosted a modelling competition in which Grade R teachers, parents, and teachers participated and paid registration and entry fees. We also organised a tuck-shop to generate additional income. The co-researchers compiled a list of dates for the events planned until the end of the year.

The co-researchers agreed that the aforementioned strategies would assist the implementation of outdoor PBL for ESD in Grade R. It can be concluded that participatory, transformative and personal development occurred during the ALS discussions among the co-researchers. They collaborated to learn about outdoor PBL and express their needs and concerns about improving personal practice in ECD.

5.4 Personal reflection

The initial phase of this study involved forming a relationship between the co-researchers and developing a collaborative vision that included signing an ethical agreement. Since we all agreed that we should treat one another with respect, fairness, and empathy, our ALS discussions provided a secure environment for the co-researchers to express their concerns, challenges, and disappointments. This research required me to be adaptable and open-minded to ensure that I paid attention to all the other people's opinions and emotions rather than imposing my ideas and points of view on them. It was noted the co-researchers regarded me as a powerful individual due

to my status as a qualified teacher and master's student; however, I assured them that we were co-creators of knowledge.

As a new action researcher, I needed to prepare thoroughly so that I could confidently lead group discussions and build trust among the co-researchers. We used art-based methods to generate data, including collage, photovoice, drawings with narratives and reflective journals. This encouraged creativity and enabled them to express their feelings and ideas. The art-based methods also promoted interaction and employed various ways to relate to others, which supported new concepts and made this study enjoyable.

It was an honour to participate in this research. Despite the challenges such as the workload issues that come with being a full-time educator, I am humbled by every step of this journey. I discovered that teachers and parents are willing to collaborate to build relationships in order to encourage and enhance our children's future development. However, much remains to be done to bring teachers, parents, Grade R teachers and the community together.

I am inspired to continue developing and broadening my knowledge of the importance of outdoor PBL for ECD in Grade R.

The following section discusses the study's limitations.

5.5 Limitations of the study

Although the study contributed to theory and practice, the following limitations should be noted:

- **Inclusion of co-researchers:** The research was conducted in a rural township where residents often associate requests with political undertones or favoritism. It was therefore a challenge to recruit participants for the study.
- **Small group of participants.** The composition of a small group may introduce bias and their ideas may not represent diversity in a broader context.
- **Generalisation of the findings:** The study was conducted in a single rural Free State school, limiting the findings to this district. Grade R teachers in other areas may have different ideas and experiences of outdoor PBL in Grade R and these were not included in this study.
- **Time constraints:** The co-researchers had busy schedules and it was challenging to find suitable times for everyone.
- The disadvantage was that the majority of our meetings were held in one location, so when we went to include additional teachers, transportation was an issue, and it was a great

distance to walk. The concern was also for our health when collecting materials to reuse, as they were too dirty and required to be cleaned before use.

5.6 Contribution of the research

The research facilitated a collaborative effort to implement outdoor PBL for ESD in Grade R. It fostered relationships between Grade R teachers and parents, enabling them to advance to the outdoor PBL. The collaboration enhanced understanding on how young children learn through outdoor PBL and how it could contribute to education for sustainable development. The Grade R teachers and parents learned how to improvise and implement outdoor PBL for ESD in Grade R with limited resources, and how to create educational material using recycled materials. This collaborative knowledge-sharing was enabled through the PALAR process where the focus is on community-based research with the purpose of advancing social change.

5.7 Suggestions for further study

Future studies could focus on the following aspects:

- The study was conducted in one school in Circuit three, Fezile Dabi district. Future studies could be conducted in other schools in the district in order to compare the results.
- In this research project, the fundraising efforts were limited to internal sources only. Subsequent research actions could be employed to investigate ways to motivate external stakeholders to contribute outdoor PBL resources to both the Grade R class, the school and the broader community.
- The findings focused on the perspectives of Grade R teachers. Future studies could be conducted from the perspective of ECD/Foundation Phase teachers to better understand the challenges they confront in further developing children who have completed ECD, and how they are able to overcome the obstacles to learning using outdoor PBL.

5.8 Summary

The aim of this research was to foster collaborative endeavours between Grade R teachers and parents to promote outdoor PBL. It promoted creative approaches to observe, share and foster a deeper understanding of outdoor PBL. Opportunities were created for the co-researchers to collaborate and enhance their knowledge and skills when implementing outdoor PBL. These efforts also underscored the importance of education for sustainable development. Recognising

the importance of interactive strategies, the teachers and parents identified the value of developing resources using recycled materials.

Through the research design rooted in PALAR, the research shows how teaching and learning could be enhanced in Grade R. I believe PALAR is a powerful tool for emerging researchers, teaching them to apply research methods that not only enrich research, but also contribute to social change in communities. The realization that our collective efforts directly impacted the holistic well-being of the young children in our classrooms motivated us all to drive the social change.

LIST OF REFERENCES

Abubakar, I. R., & Aina, Y. A. (2019). The prospects and challenges of developing more inclusive, safe, resilient and sustainable cities in Nigeria. *Land Use Policy*, *87*(1), 100-105. https://doi.org/10.1016/j.landusepol.2019.104105

Adams, J., Kennedy, A., Cotton, J., & Brumby, S. (2021). Child farm-related Injury in Australia: A review of the literature. *International Journal Environment Research, 18*(11), 6063-6078. https://doi.org/10.3390/ijerph18116063

Ahmad, H., Shah, S. R., Latada, F., & Waha, M. N. (2019). Teacher identity development in professional learning: An overview of theoretical framework. *Bulletin of Advanced English Studies, 3*(1), 1-11. https://doi.org/10.31559/baes2019.3.1.1

Aina, A. Y., & Bipath, K. (2022). Availability and use of infrastructural resources in promoting quality early childhood care and education in registered early childhood development centres. *South African Journal of Childhood Education, 12*(1), 1-11. https://doi.org/10.4102/sajce.v12i1.980

Agbedahin, A. V. (2019). Sustainable development, Education for Sustainable Development, and the 2030 Agenda for Sustainable Development: Emergence, efficacy, eminence, and future. *Sustainable Development*, *27*(4), 669-680. https://doi.org/10.1002/sd.1931

Akpan, V. D., Igwe, U. A., Mpamah, I. B. I., S Okoro schers, C. O., & Siegrist, M. (2020). Social constructivism: Implications on teaching and learning. *British Journal of Education, 8*(8), 49-56.

Alam, A. (2022). Mapping a sustainable future through conceptualization of transformative learning framework, education for sustainable development, critical reflection, and responsible citizenship: an exploration of pedagogies for twenty-first century learning. *The Electrochemical Society, 107*(1), 1-12. https://doi.org/10.1149/10701.19481

Alberti, F., Foster, G. D., & Bailey, A. M. (2017). Natural products from filamentous fungi and production by heterologous expression. *Applied microbiology and biotechnology, 101*(1), 493-500. https://doi.org/10.1007/s00253-016-8034-2

Alessandroni, N., & Rodríguez, C. (2020). The development of categorisation and conceptual thinking in early childhood: methods and limitations. *Psicologia Reflexao Crítical, 33*(17), 2-20. https://doi.org/10.1186/s41155-020-00154-9

Alexander, S., & Boud, D. (2018). *Children still learn from experience when online. In Teaching & Learning Online*. Routledge. https://doi.org/10.4324/9781315042527-2

Ali, E., Constantino, K. M., Hussain, A., & Akhtar, Z. (2018). The effects of play-based learning on early childhood education and development. *Journal of Evolution of Medical and Dental Sciences, 7(*43), 6808- 6811. https://doi.org/10.14260/jemds/2018/0000

Aljohani, M. (2017). Principles of "constructivism" in foreign language teaching. *Journal of Literature and Art Studies, 7*(1), 97-107. https://doi.org/10.17265/2159-5836/2017.01.013

Alimoradi, Z., Kariman, N., Simbar, M., & Ahmadi, F. (2017). Empowerment of adolescent girls for sexual and reproductive health care: A qualitative study. *African Journal of Reproductive Health*, *21*(4), 80-92. https://doi.org/10.29063/ajrh2017/v21i4.9

Alme, H., & Reime, M. A. (2021). Nature kindergartens: a space for children's participation. *Journal of Outdoor and Environmental Education, 24*(2), 113-131. https://doi.org/10.1007/s42322-021-00081-y

Almers, E., Askerlund, P., Samuelsson, T., & Waite, S. (2021). Children's preferences for schoolyard features and understanding of ecosystem service innovations – a study in five Swedish preschools. *Journal of Adventure Education and Outdoor Learning*, *21*(3), 230-246. https://doi.org/10.1080/14729679.2020.1773879

Alwaely, S. A., Yousif, N. B. A., & Mikhaylov, A. (2021). Emotional development in preschoolers and socialization. *Early Child Development and Care*, *191*(16), 2484-2493. https://doi.org/10.1080/03004430.2020.1717480

Andy, C. Y. Tse, S. S., Fong, M., Thomson, W., Wong, W. L., & Masters, R. (2017). Analogy motor learning by young children: a study of rope skipping. *European Journal of Sport Science, 17*(2), 152-159. https://doi.org.10.1080/17461391.2016.1214184

Ang, L., & Tabu, M. (2018). Conceptualising home-based child care: a study of home-based settings and practices in Japan and England. *International Journal of Early Childhood*, *50*, 143-158. https://doi.org/10.1007/s13158-018-0218-8

Apuke, O. D. (2017). Quantitative research methods: A synopsis approach. *Kuwait Chapter of Arabian Journal of Business and Management Review*, *33*(5471), 1-8. https://doi.org/10.12816/0040336

Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research. *Qualitative Sociology*, *42*, 139-160. https://doi.org/10.1007/s11133-019-9413-7

Assarroudi, A., Heshmati Nabavi, F., Armat, M. R., Ebadi, A., & Vaismoradi, M. (2018). Directed qualitative content analysis: the description and elaboration of its underpinning methods and data analysis process. *Journal of research in nursing,* *23*(1), 42-55. https://doi.org/10.1177/1744987117741667

Aubrey C. (2017). Sources of inequality in South African early child development services. *South African Journal of Childhood Education,* *7*(1), 1-15. https://doi.org/10.4102/sajce.v7i1.450

Avci, E. (2017). A normative analysis to determine the goals of ethics education through utilizing three approaches: rational moral education, ethical acculturation, and learning throughout life. *International Journal of Ethics Education*, *2*(2), 125-145. https://doi.org/10.1007/s40889-017-0032-4

Baker, T. L., Wise, J., Kelley, G., & Skiba. R. J. (2016). Identifying barriers: Creating solutions to improve family engagement. *School Community Journal,* *26*(2), 161-184. http://www.schoolcommunitynetwork.org/SCJ.aspx

Baloyi-Mothibeli, S. L., Ugwuanyi, C. S., & Okeke, C. I. (2021). Exploring Grade R teachers' mathematics curriculum practices and strategies for improvement: Implications for physics teaching. *Cypriot Journal of Educational Sciences*, *16*(1), 238-250. https://doi.org/10.18844/cjes.v16i1.5523

Bang, Y. S. (2018). Parents' perspectives on how their behaviors impede parent–teacher collaboration. *Social Behavior and Personality: An international journal*, *46*(11), 1787-1799. https://doi.org/10.2224/sbp.7270

Barak, M. (2017). Science teacher education in the twenty-first century: a pedagogical framework for technology-integrated social constructivism. *Research Science Education*, *47*, 283-303. http://doi.org.10.1007/s11165-015-9501-y

Barrable, A. (2019). The case for nature connectedness as a distinct goal of early childhood education. *International Journal of Early Childhood Environmental Education,* *6*(2), 59-70. https://eric.ed.gov/?id=EJ1225651

Barrable, A. (2020). Shaping space and practice to support autonomy: lessons from natural settings in Scotland. *Learning Environments Research*, *23*(3), 291-305. https://doi.org/10.1007/s10984-019-09305-x

Bartolome, M. T., Mamat, N., & Masnan, A. H. (2017). Parental Involvement in the Philippines: A review of literatures. *International Journal of Early Childhood Education and Care*, *6*, 41-50.

Bauer, M. E. E., Brussoni, M., & Giles, A. G. (2021). Rural mothers' perspectives on keeping their children safe during outdoor play: 'it's hard to raise a child in a small community'. *Journal of Adventure Education and Outdoor Learning, 2(3),* 203-213. https://doi.org.10.1080/14729679.2021.1902827

Bauml, M., Patton, M. M., & Rhea, D. (2020). A qualitative study of teachers' perceptions of increased recess time on teaching, learning, and behavior. *Journal of Research in Childhood Education*, *34*(4), 506-520. https://doi.org/10.1080/02568543.2020.1718808

Bayeck, R. B. (2018). A review of five African board games: is there any educational potential. *Cambridge Journal of Education, 48*(5), 533-552. https://doi.org?10.1080/0305764X.2017.1371671

Beam, S. (2021). Turning a blind eye: infanticide and missing babies in seventeenth-century Geneva. *Law and History Review*, *39*(2), 255-276.

Bellver, M., Drobnic, F., Jovell, E. Ferrer-Roca, W., Abalos, X., Del Rio, L., & Trilla, A. (2021). Jumping rope and whole-body vibration program effects on bone values in Olympic artistic swimmers. *Journal of Bone Mineral Metabolism, 39(*4), 858–867. https://doi.org/10.1007/s00774-021-01224-3

Belton, I., MacDonald, A., Wright, G., & Hamlin, I. (2019). Improving the practical application of the Delphi method in group-based judgment: A six-step prescription for a well-founded and defensible process. *Technological Forecasting and Social Change, 147*(1), 72-82. https://doi.org/10.1016/j.techfore.2019.07.002

Belwal, R., Belwal, S., Sufian, A. B., & Al Badi, A. (2020). Project-based learning (PBL): Outcomes of students' engagement in an external consultancy project in Oman. *Education and Training, 63*(3), 336-359. https://doi.org/10.1108/ET-01-2020-0006

Bennett, W. L., & Livingston, S. (2018). The disinformation order: Disruptive communication and the decline of democratic institutions. *European journal of communication, 33*(2), 122-139. https://doi.org/10.1177/0267323118760317

Bento, G., & Dias, G. (2017). The importance of outdoor play for young children's healthy development. *Porto Biomed Journal, 2*(5), 157-160. https://.doi.org/10.1016/j.pbj.2017.03.003

Bentsen, P., Mygind, L., Elsborg, P., Nielsen, G., & Mygind, E. (2022). Education outside the classroom as upstream school health promotion: adding-in physical activity into children's everyday life and settings. *Scandinavian Journal of Public Health, 50*(3), 303-311. https://doi.org/10.1177/1403494821993715

Bernal, R., Attanasio, O., Peña, X., & Vera-Hernández, M. (2019). The effects of the transition from home-based childcare to childcare centers on children's health and development in Colombia. *Early childhood research quarterly, 47*(1), 418-431. https://doi.org/10.1016/j.ecresq.2018.08.005

Bhamani, S., Makhdoom, A. Z., Bharuchi, V., Ali, N., Kaleem, S., & Ahmed, D. (2020). Home learning in times of COVID: Experiences of parents. *Journal of Education and Educational Development*, *7*(1), 9-26. http://dx.doi.org/10.22555/joeed.v7i1.3260

Bian, L., Leslie, S. J., & Cimpian, A. (2019). Gender stereotypes about intellectual ability emerge early and influence children's interests. *Science, 355*(6323), 389-391. https://doi.org.1126/science.aah6524.

Biddle, C., & Schafft, K. A. (2015). Axiology and anomaly in the practice of mixed methods work: Pragmatism, valuation, and transformative paradigm. *Paradigm in Mixed Methods Research, 9*(4), 320-334. https://doi.org/10.1177/1558689814533157

Bodrova, E., & Leong, D. J. (2019). Making play smarter, stronger, and kinder. Lessons from tools of the mind. *American Journal of Play, 12*(1), 38-53.

Boele, S., Van der Graaff, J., de Wied, M., Van der Valk, I. E., Crocetti, E., & Branje, S. (2019). Linking parent-child and peer relationship quality to empathy in adolescence: A multilevel meta-analysis. *Journal of Youth Adolescence*, *48*, 1033–1055. https://doi.org/10.1007/s10964-019-00993-5

Bose, K., & Seetso, G. (2016). Science and mathematics teaching through local games in preschools of Botswana. *South African Journal of Childhood Education, 6*(2), 1-9. http://doi.org/10.4102/sajce. v6i2.453

Boxberger, K., & Reimers, A. K. (2019). Parental correlates of outdoor play in boys and girls aged 0 to 12 – A systematic review. *International Journal of Environmental Research and Public Health*, *16*(2), 190-205. https://doi.org/10.3390/ijerph16020190

Bozkurt, G. (2017). Social constructivism: Does it succeed in reconciling individual cognition with social teaching and learning practices in Mathematics. *Journal of Education and Practice, 8*(3), 210-218.https://files.eric.ed.gov/fulltext/EJ1131532.pdf

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health, 11*(4), 589-597. https://doi.org/10.1080/2159676X.2019.1628806

Brochado, A., Stoleriu, O., & Lupu, C. (2021). Wine tourism: a multisensory experience. *Current Issues in Tourism*, *24*(5), 597-615. https://doi.org/10.1080/13683500.2019.1649373

Brussoni, M., Lin, Y., Han, C., Janssen, I., Schuurman, N., Boyes, R., ... & Mâsse, L. C. (2020). A qualitative investigation of unsupervised outdoor activities for 10- to 13-year-old children: "I like adventuring but I don't like adventuring without being careful". *Journal of Environmental Psychology*, *70*, 101-460. https://doi.org/10.1016/j.jenvp.2020.101460

Bubikova-Moan, J., Hjetland., H. N., & Wollscheid. S. (2019). ECE teachers' views on play-based learning: a systematic review. *European Early Childhood Education Research Journal, 27(6)*, 776-800. https://doi.org/10.1080/1350293X.2019

Budig, K., Diez, J., Conde, P., Sastre, M., Hernan, M., & Franco, M. (2018). Photovoice and empowerment: evaluating the transformative potential of a participatory action research project. *BMC Public Health, 18*(1), 2-9. https://doi.org/10.1186/s12889-018-5335-7

Burgess, E., & Ernst, J. (2020). Beyond traditional school readiness: How nature preschools help prepare children for academic success. *International Journal of Early Childhood Environmental Education*, *7*(2), 17-33. https://eric.ed.gov/?id=EJ1255000

Burnett, C. (2018). Traditional sports and games in Eastern, Central and Southern Africa. In *Sport in the African world* (pp. 121-145). Routledge.

Bryant, J. P. (2018). A phenomenological study of preschool teachers' experiences and perspectives on inclusion practices. *Cogent education, 5*(1), 1-12. https://doi.org/10.1080/2331186X.2018.1549005

Carroll, G. R., & Kovacs, B. (2021). Authenticity: Meanings, targets, audiences and third parties. *Research in Organizational Behaviour*. https://doi.org/10.1016/j.riob.2021.100149

Casper, D. M., & Card, N. A. (2017). Overt and relational victimization: A meta-analytic review of their overlap and associations with social–psychological adjustment. *Child Development, 88*(2), 466, 483. https://doi.org/10.1111/cdev.12621

Chaouachi, M., Granacher, U., Makhlouf, I., Hammami, R., Behm, D. G., & Chaouachi, A. (2017). Within session sequence of balance and plyometric exercises does not affect training adaptations with youth soccer athletes. *Journal of Sports Science Medicine, 16*(1),125-136. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5358022/

Chen, Y. (2016). Trash to treasure: Using recyclables in physical activity settings. *Journal of Physical Education, Recreation and Dance, 87*(7), 45-51. https://doi.org.10.1080/07303084.2016.1202801

Chikwiri, E., & Musiyiwa, J. (2017). Challenges and gaps in children's transition from early childhood development to grade one in Zimbabwe. *International Journal of Educational Administration and Policy Studies, 9*(17), 91-102. http://doi.org.10.5897/IJEAPS2017.0510

Chun Tie, Y., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE open medicine, 7*(3), 1-20. https://doi.org/10.1177/2050312118822927

Coates, J. K., & Pimlott-Wisson, H. (2019). Learning while playing: Children's Forest School experiences in the UK. *British Education Research Journal, 45*(1), 21-40. https://doi.org/10.1002/berj.3491

Coe, H. A. (2017). Embracing risk in the Canadian woodlands: Four children's risky play and risk-taking experiences in a Canadian Forest Kindergarten. *Journal of Early Childhood Research*, *15*(4), 374-388. https://doi.org/10.1177/1476718X15614042

Cole, L. B., & Altenburger, E. (2019). Framing the Teaching Green Building: Environmental education through multiple channels in the school environment. *Environmental Education Research, 25*(11), 1654-1673. https://doi.org/10.1080/13504622.2017.1398817

Collins, C. S., & Stockton, C. M. (2018). The central role of theory in qualitative research. *International Journal of Qualitative Methods*, *17*(1), 1-10. https://doi.org/10.1177/1609406918797475

Connelly, L. M. (2016). Trustworthiness in qualitative research. *Journal of the Academic Medical-Surgical-Nurses, 25(6),* 435-441.

https://www.proquest.com/openview/44ffecf38cc6b67451f32f6f96a40c78/1?pq-origsite=gscholar&cbl=30764

Da Fonte, M. A., & Barton-Arwood, S. M. (2017). Collaboration of general and special education teachers: Perspectives and strategies. *Intervention in School and Clinic*, *53*(2), 99-106. https://doi.org/10.1177/1053451217693370

Dale, S., & Levin, A. S. (2016). A global human potential movement and a rebirth of humanistic psychology. *The Humanistic Psychologist, 44*(3), 227-241. https://doi.org/10.1037/hum0000032

Daniels, D. (2017). Initiating a different story about immigrant Somali parents' support of their primary school children's education. *South African Journal of Childhood Education*, *7*(1), 1-8. https://doi.org/10.4102/sajce.v7i1.461

Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice. *European journal of teacher education, 40*(3), 291-309. https://doi.org/10.1080/02619768.2017.1315399

Dassa, L., & Derose, D. S. (2017). Get in the teacher zone: A perception study of preservice teachers and their teacher identity. *Teacher Education*, *26*(1), 101-113. https://eric.ed.gov/?id=EJ1139340

Darven, L. M. (2019). *An exploration of infant teacher understandings of play-based pedagogy within the Irish context*. The University of Limerick.

de Hoop, J., Morey, M., & Seidenfeld, D. (2019). No lost generation: Supporting the school participation of displaced Syrian children in Lebanon. *The Journal of Development Studies, 55*(1), 107-127. https://doi.org.10.1080/00220388.2019.1687875

Department of Higher Education and Training (DHET). (2017). https://archive.opengazettes.org.za/archive/ZA/2017/government-gazette-ZA-vol-621-no-40750-dated-2017-03-31.pdf

Department of Basic Education (DBE). (2022). *What is early childhood development?* https://www.gov.za/faq/education/what-early-childhood-development

Diamond, J., Horn, M., & Uttal, D. H. (2016). *Practical evaluation guide: Tools for museums and other informal educational settings*. Rowman & Littlefield.

Dodd, H. F., FitzGibbon, L., Watson, B. E., & Nesbit, R. J. (2020). Children's play and in depended mobility in 2020: Results from the British children's survey. *International Journal of Environmental Research and Public Health, 2021(18),* 1-20. https://doi.org/10.3390/ijerph18084334

Dodd, S. (2020). *Ethics and integrity in visual research methods: Advance in research ethics and integrity*. Queen's University Belfast, UK. https://doi.org/10.1108/S2398-601820200000005001

Dold, M., & Lewis, P. (2023). A neglected topos in behavioural normative economics: The opportunity and process aspect of freedom. *Behavioural Public Policy, 7*(4), 943-953. https://doi:org/10.1017/bpp.2023.11

Domitrovich, C. E., Durlak, J. A., Staley, K. C., & Weissberg, R. P. (2017). Social-emotional competence: An essential factor for promoting positive adjustment and reducing risk in school children. *Child Development*, *88*(2), 408-416. https://doi.org.10.1111/cdev.12739

Dong, Y., Wang, K., Zhu, S., Li, W., & Yang, P. (2021). Design and development of an intelligent skipping rope and service system for pupils. *Healthcare Journal, 9*(954), 1-23. https://doi.org/10.3390/healthcare9080954

Du Plessis, P., & Mestry, R. (2019). Teachers for rural schools – a challenge for South Africa. *South African Journal of Education, 39*(1), 1-9. https://doi.org/10.15700/saje.v39ns1a1774

Durisic, M., & Bunijevac, M. (2017). Parental Involvement as an important factor for successful education. *Center of Educational Policy Studies Journal,* 7(3), 137-153. https://doi.org/10.26529/cepsj.291

Dyrstad, S. M., Kvalø, S. E., Alstveit, M., & Skage, I. (2018). Physically active academic lessons: acceptance, barriers and facilitators for implementation. *BMC Public Health*, *18*(1), 1-11. https://doi.org/10.1186/s12889-018-5205-3

Early Childhood Development Sector Skill Plan. (2019-2020): Pretoria.

Ebbeck, M., Yim, H. Y. B., & Warrier, S. (2019). Early childhood teachers' views and teaching practices in outdoor play with young children in Singapore. *Early Childhood Education Journal, 47*(1), 265-273. https://doi.org/10.1007/s10643-018-00924-2

Edwards, S. (2017). Play-based learning and intentional teaching: Forever different. *Australasian Journal of Early Childhood, 42(2),* 1-11. http://doi.org/10.23965/AJEC.42.2.01

Erdener, M. A., & Knoeppel, R. C. (2018). Parents' perceptions of their involvement in schooling. *International Journal of Research in Education and Science*, *4*(1), 1-13. https://doi.org10.21890/ijres.369197

Ernest, J. (2017). Exploring young children's and parents' preferences for outdoor play settings and affinity towards nature. *International Journal of Early Childhood Environmental Education, 5* (2), 30-45. https://files.eric.ed.gov/fulltext/EJ1180029.pdf

Epstein, J. L. (2019). Theory to practice: School and family partnerships lead to school improvement and student success. In *School, family and community interaction* (pp. 39-52). Routledge.

Eseyin, M., Haggai, M. P., & Bahago, B. A. (2020). Guided outdoor play: a holistic approach strategy for early childhood education in Nigeria. *International Journal of Management, Social Sciences, Peace and Conflict Studies*, *3*(4), 287-295.

Ezeanya-Esiobu, C. (2019). Africa's indigenous knowledge: from education to practice. In *Indigenous knowledge and education in Africa*. *Frontiers in African Business Research* (pp. 55-80). https://doi.org/10.1007/978-981-13-6635-25

Fauzan, M. N., Suwastika, N. A., & Jadied, E. M. (2022). Internet of Things (IoT) based free fall motion instructions in Physics subjects for Class X students. *Journal Media Information Biodrama*, *6*(2), 876-886. https://doi.org.0.30865/mib.v6i2.3774

Ferdowsian, H., Johnson, L. S. M., Johnson, J., Fenton, A., Shriver, A., & Gluck, J. (2020). A Belmont Report for animals. *Cambridge quarterly of healthcare ethics, 29*(1), 19-37. https://doi.org/10.1017/S0963180119000732

Fonseca, X., Lukosch, S., & Brazier, F. (2022). Design framework for social interaction with location-based games. *International Journal of Serious Games, 9*(1), 59-80. https://doi.org.10.17083/ijsg.v9i1.481

Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., ... & Yurovsky, D. (2017). A collaborative approach to infant research: Promoting reproducibility, best practices, and theory-building. *Infancy, 22*(4), 421-435. https://doi.org/10.1111/infa.12182

Friesen, P., Kearns, L., Redman, B., & Caplan, A. L. (2017). Rethinking the Belmont Report. *The American Journal of Bioethics*, *17*(7), 15-21. https://doi.org/10.1080/15265161.2017.1329482

Furtak, E. M., & Penuel, W. R. (2019). Coming to terms: Addressing the persistence of "hands-on" and other reform terminology in the era of science as practice. *Science education, 103*(1), 167-186. https://doi.org/10.1002/sce.21488

Gathmann, C., & Sass, B. (2018). Taxing childcare: Effects on childcare choices, family labor supply, and children. *Journal of Labor Economics*, *36*(3), 665-709. https://www.journals.uchicago.edu/doi/abs/10.1086/696143

Gibson, R., & Ewing, R. (2020). *Transforming the curriculum through the arts*. Springer International Publishing. https://link.springer.com/book/10.1007/978-3-030-52797-6

Gillies, R. M. (2016). Cooperative learning: Review of research and practice. *Australian Journal of Teacher Education, 41(*3), 39-54. http://dx.doi.org/10.14221/ajte.2016v41n3.3

Gilmore, S., Frederick, L. K., Santillan, L., & Locke, J. (2019). The games they play: Observations of children with autism spectrum disorder on the school playground. *Autism*, *23*(6), 1343-1353. https://doi.org/10.1177%2F1362361318811987

Goldstein, H., Olszewski, A., Haring, C., Greenwood, C. R., McCune, L., Carta, J., & Kelley, E. S. (2017). Efficacy of a supplemental phonemic awareness curriculum to instruct preschoolers with delays in early literacy development. *Journal of Speech, Language, and Hearing Research*, *60*(1), 89-103. https://doi.org/10.1044%2F2016_JSLHR-L-15-0451

Goodyear, V., & Bundon, A. (2021) Contemporary digital qualitative research in sport, exercise, and health: Introduction. *Qualitative Research in Sport, Exercise and Health, 13*(1), 1-10. https://doi.org/10.1080/2159676X.2020.1854836

Gorica, P. N., Filip, P., & Hristina, D. P. (2021). Communication strategies for strengthening the parent-teacher relationships in the primary schools. *International Journal of Research Studies in Education, 10*(14), 123-134. https://doi.org.10.5861/ijrse.2021.a076

Guides, R. (2019). The Rough Guide to Ecuador and the Galapagos *Travel Guide eBook.* (UK) Limited.

Gunn, K. C., & Delafield-Butt, J. T. (2016). Teaching children with autism spectrum disorder with restricted interests: A review of evidence for best practice. *Review of Educational Research*, *86*(2), 408-430. https://doi.org/10.3102/0034654315604027

Gutierrez, A. T., Guzman, N. G., Ramos, R., & Uylengco, J. K. A. (2022). The empirical change of playing habits among children. *International Journal of Multidisciplinary Applied Business and Education Research, 3*(2), 303-317. https://doi.org10.11594/ijmaber.03.02.15

Hamodi, C., Lopez-Pastor, V. M., & Lopez-Pastor, A. N. (2017). If I experience formative assessment whilst studying at university, will I put it into practice later as a teacher. *European Journal of Teacher Education, 40(*2), 171-190. https://doi.org/10.1080/02619768.2017.1281909

Harper, N. J. (2017). Outdoor risky play and healthy child development in the shadow of the "risk society": A forest and nature school perspective. *Child & Youth Services*, *38*(4), 318-334. https://doi.org/10.1080/0145935X.2017.1412825

Held, M. B. E. (2019). Decolonizing research paradigms in the context of settler colonialism: An unsettling, mutual, and collaborative effort. *International Journal of Qualitative Methods*, *18*, 1-15. https://doi.org/10.1177/1609406918821574

Henry, C., & Namhla, S. (2020). Continuous professional development for inclusive ECD teachers in Chiredzi Zimbabwe: Challenges and opportunities. *Scientific African, 8*, 13-23. https://doi.org/10.1016/j.sciaf.2020.e00270

Herr, K., & Anderson, G. L. (2015). *The Action Research Dissertation: A Guide for Students and Faculty*. SAGE Publications. Thousand. https://digitalcommons.montclair.edu/all_books/143

Howe, N., Perlman, M., Bergeron, C., & Burns, S. (2021). Scotland embarks on a national outdoor play initiative: Educator perspectives. *Early Education and Development*, *32*(7), 1067-1081. https://doi.org/10.1080/10409289.2020.1822079

Huddleston, J., Chaisson, M. J., Steinberg, K. M., Warren, W., Hoekzema, K., Gordon, D., ... & Eichler, E. E. (2017). Discovery and genotyping of structural variation from long-read haploid genome sequence data. *Genome research, 27*(5), 677-685. http://www.genome.org/cgi/doi/10.1101/gr.214007.116

Hunter, J. (2019). Supporting Teachers to Successfully Implement a Play-Based Learning Approach. *Kairaranga, 20*(2), 16-29. https://files.eric.ed.gov/fulltext/EJ1240103.pdf

Isaacs, S., Roberts, N., Spencer-Smith, G., & Brink, S. (2019). Learning through play in Grade R classrooms: Measuring teachers' confidence, knowledge and practice. *South African Journal of Childhood Education, 9*(1), 1-11. https://doi.org/10.4102/saje.v9i1.704

Jackson, K. M., Pukys, S., Castro, A., Hermosura, L., Mendez, J., Vohra-Gupta, S., & Morales, G. (2018). Using the transformative paradigm to conduct a mixed methods needs assessment of a marginalized community: Methodological lessons and implications. *Evaluation and Program Planning*, *66*, 111-119. https://doi.org/10.1016/j.evalprogplan.2017.09.010

Jati, R., Suwastika, N., & Yasirandi, R. (2020). Hopscotch game to support stimulus in children's gross motor skill using IoT. *Kinetik: Game Technology, Information System, Computer Network, Computing, Electronics, and Control Journal, 5*(4), 277-290. https://doi.org/10.22219/kinetik.v5i4.1090

Jayasuriya, A., Williams, M., Edwards, T., & Tandon, T. (2016). Parents' perceptions of preschool activities: Exploring outdoor play. *Early Education and Development, 27*(7), 1004-1017. https://doi.org.10.1080/10409289.2016.1156989

Jay, J. A., & Knaus, M. (2018). Embedding play-based learning into junior primary (Year 1 and 2) curriculum in WA. *Australian Journal of Teacher Education (Online), 43*(1), 112-126. https://search.informit.org/doi/abs/10.3316/ielapa.381353780777042

Jinping, X. (2017, October). Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era. [Paper presentation] *19th National Congress of the Communist Party of China,* 18(2017), 1-65.

http://english.mee.gov.cn/News_service/media_news/201711/P020171106321601996894.pdf

Johnson, D. W., & Johnson, R. T. (2017). The use of cooperative procedures in teacher education and professional development. *Journal of Education for Teaching, 43*(3), 284-295. https://doi.org/10.1080/02607476.2017.1328023

Johnson, J. E., Sevimli-Celik, S., Al-Mansour, M. A., Tunçdemir, T. B. A., & Dong, P. I. (2019). Play in early childhood education. In *Handbook of research on the education of young children* (pp. 165-175). Routledge.

Kamal, S. S. L. B. A. (2019). Research paradigm and the philosophical foundations of a qualitative study. *PEOPLE: International Journal of Social Sciences, 4*(3), 1386-1394. https://dx.doi.org/10.20319/pijss.2019.43.13861394

Kane, N. (2016). The play-learning binary: U.S. parents' perceptions on preschool play in a neoliberal age. *Children Society Bureau, 30*(4), 290-301. https://doi.org/10.1111/chso.12140

Kaushik, V., & Walsh, C. A. (2019). Pragmatism as a research paradigm and its implications for Social Work research. *International Journal of Social science, 8*(255), 2-17. https://doi.org.10.3390/socsci8090255

Kendrick, H. K. (2017). Are religion and spirituality barriers or facilitators to treatment for HIV. A systematic review of the literature. *AIDS Care, 29(*1), 1-13. https://doi.org.10.1080/09540121.2016.1201196

Khalil, N., Aljanazrah, A., Hamed, G., & Murtagh, E. (2022). Exploring teacher educators' perspectives of play-based learning: a mixed method approach. *Education sciences, 12*(2), 1-16. https://doi.org/10.3390/educsci12020095

Khudoiberganovna, R. N. (2020). Methodology for teaching outdoor games in preschool institutions. *Scientific Journal Impact Factor, 1*(4), 932-941. https://cyberleninka.ru/article/n/methodology-for-teaching-outdoor-games-in-preschool-institutions/viewer

Kleppe, R., Melhuish, E., & Sandseter, E. B. H. (2017). Identifying and characterizing risky play in the age one-to-three years. *European Early Childhood Education Research Journal, 25*(3), 370-385. https://doi.org/10.1080/1350293X.2017.1308163

Kirk, G., & Jay, J. (2018). Supporting kindergarten children's social and emotional development: Examining the synergetic role of environments, play, and relationships. *Journal of Research in Childhood Education*, *32*(4), 472-485. https://doi.org/10.1080/02568543.2018.1495671

Kivunja, C. (2018). Distinguishing between theory, theoretical framework, and conceptual framework: A systematic review of lessons from the field. *International Journal of Higher Education*, *7*(6), 44-53. https://eric.ed.gov/?id=EJ1198682

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts: *International Journal of Higher Education*, *6*(5), 26-41. https://doi.org/10.5430/ijhe.v6n5p26

Kohli, R. (2018). Lessons for teacher education: The role of critical professional development in teacher of color retention. *Journal of Teacher Education, 70*(1), 39-50. https://doi.org/10.1177/0022487118767645

Kovecses-Gosi, V. (2018). Cooperative learning in VR environment. *Acta Polytechnical Hung Arica, 15*(3), 205-224.

Kovach, M. (2021). *Indigenous methodologies: Characteristics, conversations, and contexts*. University of Toronto Press.

Koymen, B., & Tomasello, M. (2020). The early ontogeny of reason giving. *Child Development Perspectives*, *14*(4), 215-220. https://doi.org/10.1111/cdep.12384

Krane, V., & Klevan, T. (2019). There are three of us: parents' experiences of the importance of teacher-student relationships and parental involvement in upper secondary school, *International Journal of Adolescence and Youth, 24*(1), 74-84. https://doi.org/10.1080/02673843.2018.1464482

Kristen, M., Jihyun Oh, K., Kenney, E., & Smith-Bonahue, T. (2016). The power of outdoor play and play in natural environments. *Childhood Education, 92(*6), 446-454. https://doi.org10.1080/00094056.2016.1251793

Kunst, E. M., van Woerkom, M., & Poell, R. F. (2018). Teachers' goal orientation profiles and participation in professional development activities. *Vocations and Learning*, *11*, 91-111. https://doi.org/10.1007/s12186-017-9182-y

Laely, K., & Yudi, D. (2018). The impact of hopscotch game towards the growth of kinesthetic intelligence on 3-4-year-old children. *Early Childhood Research Journal, 1*, 21-28. https://doi.org10.23917/ecrj.v1i1.6581.

Lamrani, R., & Abdelwahed, E. H. (2020). Game-based learning and gamification to improve skills in early years education. *Computer Science and Information Systems, 17*(1), 339-356 https://doi.org/10.2298/CSIS190511043L

Layne, T., Simonto, K., & Irwin, C. (2022). Effects of a sport education instructional model and heart rate monitor system on the physical activity and jump rope performance of fourth grade students. *Journal of Physical Education and Sport, 22*(4), 889-899. https://doi.org/10.7752/jpes.2022.04113

Lee, C. K., & Ensel Bailie, P. (2019). Nature-based education: using nature trails as a tool to promote inquiry-based science and math learning in young children. *Science Activities*, *56*(4), 147-158. https://doi.org/10.1080/00368121.2020.1742641

Leech, N. L., Gullett, S., Cummings, M. H., & Haug, C. A. (2022). The challenges of remote K-12 education during the COVID-19 pandemic: Differences by grade level. *Online Learning*, *26*(1), 245-267. https://doi/org/10.24059/olj.v26i1.2609

Leggett, N., & Newman, L. (2017). Play: Challenging educators' beliefs about play in the indoor and outdoor environment. *Australasian Journal of Early Childhood*, *42*(1), 24-32. https://doi.org/10.23965/AJEC.42.1.03

Lewis, C. J. (2019). Vygotsky and moral education: A response to and expansion of Tappan. *Educational Philosophy and Theory*, *51*(1), 41-50. https://doi.org/10.1080/00131857.2018.1427576

Li, H. C., & Stylianides, A. J. (2018). An examination of the roles of the teacher and students during a problem-based learning intervention: lessons learned from a study in a Taiwanese primary mathematics classroom. *Interactive Learning Environments, 26*(1), 106-117. https://doi.org/10.1080/10494820.2017.1283333

Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative research journal, 19*(3), 259-270. https://doi.org/10.1108/QRJ-12-2018-0012

Linsell, L., Malouf, R., Morris, J., Kurinczuk, J. J., & Marlow, N. (2015). Prognostic factors for poor cognitive development in children born very preterm or with very low birth weight: A systematic review. *JAMA Pediatr, 169*(12), 1-22. http://doi.org/10.1001/jamapediatrics

Liu, Y., Sulaimani, M. F., & Henning, J. E. (2020). The Significance of parental involvement in the development in infancy. *Journal of Educational Research & Practice, 10*(1), 161-166. http://doi.10.5590/JERAP.2020.10.1.11

Loebach, J., & Cox, A. (2022). Playing in the backyard: Environmental features and conditions of a natural play space which support diverse outdoor play activities among younger children. *International Journal Environment Research Public Health, 19*(12661), 1-35. https://doi.org/10.3390/ijerph191912661

Loebach, J., & Cox, A. (2020). Tool for observing play outdoors (TOPO): A new typology for capturing children's play behaviors in outdoor environments. *International Journal Environment Research Public Health, 17,* 1-34. https://doi.org.10.3390/ijerph17155611.

Louth, S., & Jamieson-Protor, R. (2019). Inclusion and engagement through traditional indigenous games: Enhancing physical self-efficacy. *International Journal of Inclusive Education, 23*(12), 1248-1262. https://doi.org?10.1080/13603116.2018.1444799

Lundberg, S. M., Nair, B., Vavilala, M. S., Horibe, M., Eisses, M. J., Adams, T., & Lee, S. I. (2018). Explainable machine-learning predictions for the prevention of hypoxaemia during

surgery. *Nature Biomedical Engineering*, *2*(10), 749-760. https://doi.org/10.1038/s41551-018-0304-0

Lunga, P., Esterhuizen, S., & Koen, M. (2022). Play-based pedagogy: An approach to advance young children's holistic development. *South African Journal of Childhood Education, 12*(1), 11-33. https://journals.co.za/doi/abs/10.4102/sajce.v12i1.1133

Lungu, S., Marafwali, B., & Banja, M. K. (2020). Play based learning in early childhood education (ECE) centres in Zambia: A teacher perspective. *European Journal of Education Studies, 7*(12), 1-12. https://doi.org.10.46872/ejes.V7i12.3427

Lynch, H., Moore, A., Edwards, C., & Horgan, L. (2020). Advancing play participation for all: The challenge of addressing play diversity and inclusion in community parks and playgrounds. *British Journal of Occupational Therapy*, *83*(2),107-117. https://doi.org/10.1177/0308022619881936

Macblain, S. (2022). *Learning theory for early years practice*. London: SAGE

Madondo, F. (2020). Perceptions on curriculum implementation: A case for rural Zimbabwean early childhood development teachers as agents of change. *Journal of Research in Childhood Education, 35*(2), 1-19. https://doi.org/10.1080/02568543.2020.1731024

Maher, C., Hadfield, M., Hutchings, M., & De Eyto, A. (2018). Ensuring rigor in qualitative data analysis: A design research approach to coding combining NVivo with traditional material methods. *International Journal of Qualitative Methods*, *17*(1), 1-13. https://doi.org/10.1177/1609406918786362

Malm, C., Jakobsson, J., & Isaksson, A. (2019). Physical activity and sports—real health benefits: a review with insight into the public health of Sweden. *Sports, 7*(5), 1-27. https://doi.org/10.3390/sports7050127

Mann, J., Gray, T., Truong, S., Sahlberg, P., Bentsen, P., Passy, R., H, S., Ward, K., & Cowper, R. A. (2021). Systematic review protocol to identify the key benefits and efficacy of nature-based learning in outdoor educational settings. *International Journal Environmental Research and Public Health, 18*, 1199-1214. https://doi.org/10.3390/ijerph180311

Mare, S., & Muteza, A. (2021). The effective of e-tutoring in an open and distance e-learning environment: Evidence from the University of South Africa. *The Journal of Open Distance and e-learning*, *36*(3), 1-17. https://doi.org/10.1080/026800513.2020.1717941

Martin, C. S. (2016). Exploring the impact of the design of the physical classroom environment on young children with autism spectrum disorder (ASD). *Journal of Research in Special Educational Needs*, *16*(4), 280-298. https://doi.org/10.1111/1471-3802.12092

Masabo, L. P., Muchopa, D., & Kuoth, W. B. G. (2017). Parental involvement in school activities in Kibondo District, Tanzania: Challenges and remedies. *International Journal of Education and Research, 5*(10), 1-24. https://www.ijern.com/journal/2017/October-2017/08.pdf

Mata-McMahon, J., Haslip, M. J., & Schein, D. L. (2020). Connections, virtues, and meaning-making: How early childhood educators describe children's spirituality. *Early Childhood Education Journal*, *48*, 657-669. https://doi.org/10.1007/s10643-020-01026-8

Matthiesen, N. C. L. (2017). Working together in a deficit logic: home–school partnerships with Somali diaspora parents. *Race Ethnicity and Education, 20*(4), 495-507. https://doi.org/10.1080/13613324.2015.1134469

Mavhunga, F., & Kibirige, I. (2018). Tapping the tacit knowledge of playfield swings to learn physics: A case study of childhood reflections by pre-service teachers. *African Journal of Research in Mathematics, Science and Technology Education*, *22*(2), 221-230. https://hdl.handle.net/10520/EJC-fbc5b6f12

Mayaba, N. N., & Wood, L. (2015). Using drawings and collages as data generation methods with children: Definitely not child's play. *International Journal of Qualitative Methods, 14*(5)*, 1-15.* https://doi.org/10.1177/1609406915621407

McClain, C., & Vandermaas-Peeler, M. (2016). Social contexts of development in natural outdoor environments: Children's motor activities, personal challenges and peer interactions at the river and the creek. *Journal of Adventure Education and Outdoor Learning*, *16*(1), 31-48. https://doi.org/10.1080/14729679.2015.1050682

McCormack, R. G., Petersen, J., Naish, C., Ghoneim, D., & Doyle-Baker, P. K. (2022). Neighbourhood environment facilitators and barriers to outdoor activity during the first wave of the COVID-19 pandemic in Canada. *Cite and Health Journal, 1*(1), 1-14. https://doi.org/10.1080/23748834.2021.2016218

McKenzie, J., Shanda, N., & Aldersey, H. M. (2021). Family–teacher partnerships: Families' and teachers' experiences of working together to support children with disabilities in South Africa. *British Journal of Special Education, 48*(1), 26-49. https://doi.org/10.1111/1467-8578.12337

McLean, K., Lake, G., Wild, M., Licandro, U., & Evangelou, M. (2023). Perspectives of play and play-based learning: What do adults think play is. *Australasian Journal of Early Childhood*, *48*(1), 5-17. https://doi.org/10.1177/18369391221130790

Meier, C., & West, J. (2020). Overcrowded classrooms – the Achilles heel of South African education. *South African Journal of Childhood Education*, *10*(1), 1-10. https://doi.org/10.4102/sajce.v10i1.617

Meyer, M. R., Bridges, C. N., Schmid, T. L., Amelie, A. H., & Keshia M. P. P. (2019). Systematic review of how Play Streets impact opportunities for active play, physical activity, neighborhoods, and communities. *BMC Public Health*, *19*(335), 2-16. https://doi.org/10.1186/s12889-019-6609-4

Mhlanga, S.C., Fuhrimannd, S., Eeftens, M., Baseraa, W., Hartingerb, S., Dalviea, M. A., & Rooslib, M. (2020). Different aspects of electronic media use, symptoms and neurocognitive outcomes of children and adolescents in the rural Western Cape region of South Africa. *Environmental Research, 18*(4), 54-68 https://doi.org/10.1016/j.envres.2020.109315

Michlig, G. J., Lafta, R., Al-Nuaimi, M., & Burnham, G. (2019). Providing healthcare under ISIS: A qualitative analysis of healthcare worker experiences in Mosul, Iraq between June 2014 and June 2017. *Global public health, 14*(10), 1414-1427. https://doi.org/10.1080/17441692.2019.1609061

Miller Marsh, M., & Zhulamanova, I. (2017). Follow the leader: Attending to the curriculum making potential of preschoolers. *Early Child Development and Care*, *187*(5-6), 1004-1014. https://doi.org/10.1080/03004430.2016.1223069

Modise, M.R. (2021). Exploring early childhood centre managers' perceptions of their roles in promoting developmentally-appropriate physical environments in South Africa. *Journal for the Education of Gifted Young Scientists, 9*(4), 339-350. http://dx.doi.org/10.17478/jegys.1010694

Mohangi, K., Krog, S., Stephens, O., & Nel, N. (2016). Contextual challenges in early literacy teaching and learning in grade R rural schools in South Africa. *Per Linguam: Journal of Language Learning = Per Linguam: Tydskrif vir Taalaanleer*, *32*(1), 71-87. https://hdl.handle.net/10520/EJC189600

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, 7(1), 23-48. https://www.ceeol.com/search/article-detail?id=640546

Mohammed, S. H., & Kinyó, L. (2020). The role of constructivism in the enhancement of social studies education. *Journal of critical reviews, 7*(7), 249-256. http://dx.doi.org/10.31838/jcr.07.07.41

Moloi, T. J., Moeketsi, S., Plaatje M. S., Mogalatjane, E., & Sibiya, K. T. (2021). The use of indigenous games to enhance the learning of word problems in Grade 4 Mathematics: A case of Kgati. *International Journal of Learning, Teaching and Educational Research, 20*(1), 240-259. https://doi.org/10.26803/ijlter.20.1.13

Moore, S. A., Faulkner, G., Rhodes, R. E., Brussoni, M., Chulak-Bozzer, T., Ferguson, L. J., Mitra, R., O'Reilly, N., Spence, J. C., Vanderloo, L. M.,& Tremblay, M. S. (2020). Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: A national survey. *International Journal Behaviour Nutrition Physical Act*, 17(85), 1-11 https://doi.org/10.1186/s12966-020-00987-8

Mosimenge, M. (2020). The use of indigenous games in the teaching and learning of Mathematics. *Revemop, 2*, 1-16. https://doi.org/10.33532/revemop.e202009

Mota, J., Silva-Santos. S., Santos, A., Seabra, A., Duncan, M., & Vale, S. (2017). Parental education and perception of outdoor playing time for preschoolers. *Motriz, Rio Claro, 23(2), 1-6.* https://dx.doi.org/10.1590/S1980-6574201700SI0062

Mudaly, V. (2018). Decolonising the mind: Mathematics teachers explore possibilities for indigenising the school curriculum. *Journal of Education (University of KwaZulu-Natal)*, (74), 67-84. http://orcid.org/0000-0003-3570-1256

Muhammad, Z. K., Syed, G. D., & Raham, Z. (2018). The reasons for traditional games losing popularity: A case study of skhy (calf) in Nihagdara, KP (Pakistan). *The Park, 3*(1), 129-142. https://journal.suit.edu.pk/index.php/spark/article/view/484

Munje, P. N., & Mncube, V. (2018). The lack of parent involvement as hindrance in selected public primary schools in South Africa: The voices of educators. *Perspectives in Education, 36*(1), 80-93. http://dx.doi.org/10.18820/2519593X/pie.v36i1.6

Myende, P. E., & Nhlumayo, B. S. (2022). Enhancing parent–teacher collaboration in rural schools: parents' voices and implications for schools. *International Journal of Leadership in Education, 25*(3), 490-514. https://doi.org/10.1080/13603124.2020.1731764

Ndimande, B. S. (2016). School choice and inequalities in post-apartheid South Africa. *Global Education Review, 3*(2), 33-49. https://ger.mercy.edu/index.php/ger/article/view/203

Neale, J. (2021). Iterative categorisation (IC) (part 2): Interpreting qualitative data. *Addiction*, *116*(3), 668-676. https://doi.org/10.1111/add.15259

Nel, A., Joubert, I., & Hartell, C. (2017). Teachers' perceptions on the design and use of an outdoor learning environment for sensory and motor stimulation. *South African Journal of Childhood Education*, *7*(1), 482-501. https://doi.org/10.4102/sajce.v7i1.482

Nel, N., Mohangi, K., Krog, S., & Stephens, O. (2016). An overview of Grade R literacy teaching and learning in inclusive classrooms in South Africa. *Per Linguam: Journal of Language Learning*, *32*(2), 47-65. https://hdl.handle.net/10520/EJC197010

Newton, M. H., & Zeidler, D. L. (2020). Developing socio-scientific perspective taking. *International Journal of Science Education*, *42*(8), 1302-1319. https://doi.org/10.1080/09500693.2020.1756515

Nguyen, T. H. N. (2019). Parental involvement in outdoor learning: crossing curriculum priorities. *Australian Curriculum Studies Association, 2019(39),*103-107. https://doi.org/10.1007/s41297-019-00064-*6*

Odgers, C. L., & Jensen, M. R. (2020). Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions. *Journal of Child Psychology and Psychiatry*, *61*(3), 336-348. https://doi.org/10.1111/jcpp.13190

Ogegbo, A. A., & Aina, A. (2020). Early childhood development teachers' perceptions on the use of technology in teaching young children. *South African Journal of Childhood Education, 10*(1), 1-10. https://doi.org/10.4102/sajce. v10i1.880

Ogunyemi, F. T. (2020). From traditional learning to modern education: Understanding the value of play in Africa's childhood development. *South African Journal of Education, 40*(2), 1-11. https://doi.org/10.15700/saje.v40ns2a1768

Okwany, A. (2016). 'Every mother dances her baby': Contextually responsive narratives of early childhood care and education in Kenya and Uganda. *South African Journal of Childhood Education*, *6*(2), 1-9. http://dx.doi.org/10.4102/sajce. v6i2.464

Orth, D., Davids, K., & Seifert, L. (2016). Coordination in climbing: effect of skill, practice and constraints manipulation. *Sports Medicine, 46*(2), 255-268. https://doi.org/10.1007/s40279-015-0417-5

Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2020). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, *24*(1), 6-36. https://doi.org/10.1080/10888691.2017.1398650

Osituyo, O. O. (2018). Deliberate ceiling for career progress of female public service employees: A contemporary transformation trend in South Africa. *Journal of International Women's Studies, 19*(3), 172-186. https://vc.bridgew.edu/jiws/vol19/iss3/13/

Ostermeier, E., Tucker, P., Tobin, D., Clark, A., & Gilliland, J. (2022). Parents' perceptions of their children's physical activity during the COVID-19 pandemic. *BioMed Central Public Health, 22*(1), 1-12. https://doi.org/10.1186/s12889-022-13829-y

Ozkal, N. (2020). Teachers' and school administrators' views regarding the role of recess for students. *International Journal of Progressive Education*, *16*(5), 121-137. https://eric.ed.gov/?id=EJ1273160

Ozumba, G. O. (2017). *Postmodernism and epistemology*. Critical essays on postmodernism. UK: Edioms Research and Innovation Centre (E-RIC).

Paananen, M., & Rainio, A. P. (2019). Micro-policies of adult-child joint play in the context of the Finnish ECEC system. In S. Alcock & N. Stobbs (Eds.), *Rethinking play as pedagogy*. 1. ed. *Thinking about Pedagogy in Early Education*. Routledge, London. https://doi.org/10.4324/9780429454042.

Parsons, K. J., & Traunter, J. (2020). Muddy knees and muddy needs: parents' perceptions of outdoor learning. *Children's Geographies*, *18*(6), 699-711. https://doi.org/10.1080/14733285.2019.1694637

Parliamentary Monitoring Group (PMG). (2020). *ECD migration from DSD to DBE: tracking progress in ECD service delivery: NGO briefing.* https://pmg.org.za/committee-meeting/29937/

Papaleontiou–Louca, E., Esmailnia, S., & Thoma, N. (2022). A critical review of Maslow's theory of spirituality. *Journal of Spirituality in Mental Health*, *24*(4), 327-343. https://doi.org/10.1080/19349637.2021.1932694

Peacock, J., Bowling, A., Finn, K., & McInnis, K. (2021). Use of outdoor education to increase physical activity and science learning among low-income children from urban schools. *American Journal of Health Education, 52 (2),* 92-100. http://doi.org/10.1080/19325037.2021.1877222

Pearce, M., Saunders, D. H., Allison, P., & Turner, A. P. (2018). Indoor and outdoor context-specific contributions to early adolescent moderate to vigorous physical activity as measured by combined diary, accelerometer, and GPS. *Journal of Physical Activity and Health, 15*(1), 40-45. https://doi.org/10.1123/jpah.2016-0638

Pelaez-Fernandez, M. A., Rey, L., & Extremera, N. (2022). Pathways from emotional intelligence to well-being and health outcomes among unemployed: Mediation by health-promoting behaviours. *Journal of Health Psychology*, *27*(4), 879-889. https://doi.org/10.1177/1359105320974431

Pelletier, J. H., Rakkar, J., Au, A. K., Fuhrman, D., Clark, R. S., & Horvat, C. M. (2021). Trends in US pediatric hospital admissions in 2020 compared with the decade before the COVID-19 pandemic. JAMA Network Open, 4(2). 1-13. https://doi:10.1001/jamanetworkopen.2020.37227

Phajane, M. H. (2019). Play as a medium for learning: Overwhelming challenges for early childhood teachers. *African Journals, 7*(4), 174-202. https://hdl.handle.net/10520/EJC-1b166d082c

Phillips, R. B. (2019). Making 'fun' of the museum: Multi-disciplinarity, holism, and the 'return of curiosity'. *Museum and Society*, *17*(3), 316-341. https://pdfs.semanticscholar.org/c6e6/b0d548a04ae0bbab19e459c25f558292c82f.pdf

Pienaar, A., & Brosdowski-Willis, A. (2022). Original article mastery of rope skipping by first graders: current status by sex and assessment criteria: an NW-CHILD study. *Journal of Physical Education and Sport, 22*, 370-379. https://doi.org.10.7752/jpes.2022.02047

Piersol, L., Russell, L., & Groves, J. (2018). Nature education for sustainable todays and tomorrows (NEST): Hatching a new culture in schooling. *Australian Journal of Environmental Education*, *34*(2), 97-114. https://doi.org.10.1017/aee.2018.31

Play policy push in South Africa. (2017). *A Chance to Play Southern Africa* (ACTPSA)*:* Johannesburg.

Pollarolo, E., Størksen, I., Skarstein, T. H., & Kucirkova, N. (2022). Children's critical thinking skills: Perceptions of Norwegian early childhood educators. *European Early Childhood Education Research Journal*. 1-13. https://doi.org/10.1080/1350293X.2022.2081349

Prajapati, R., Sharma, B., & Sharma, D. (2017). Significance of life skills education. *Contemporary Issues in Education Research*, *10*(1), 1-6. https://doi.org/10.19030/cier.v10i1.9875

Pulla, V., & Carter, E. (2018). Employing interpretivism in social work research. *International Journal of Social Work and Human Services Practice,* *6*(1), 9-14. https://d1wqtxts1xzle7.cloudfront.net/63197938/IJRH2-1929047620200504-61084-3v3zjb-

Pyrko, I., Dörfler, V., & Eden, C. (2017). Thinking together: What makes communities of practice work. *Human Relations*, *70*(4), 389-409. http://doi.org/10.1177/0018726716661040

Radabe, N. L. (2019). *The integration of indigenous health knowledge systems into the basic education curriculum for children with special education needs.* (Doctoral dissertation, North-West University (South Africa). https://orcid.org/0000-0003-4463-6521

Radebe, S. B., & Phooko, M. R. (2017). Ubuntu and the law in South Africa: Exploring and understanding the substantive content of ubuntu. *South African Journal of Philosophy, 36*(2), 239-251. https://doi.org.10.1080/02580136.2016.1222807

Ramnarain, U., & Hlatswayo, M. (2018). Teacher beliefs and attitudes about inquiry-based learning in a rural school district in South Africa. South African Journal of Education, 38(1), 1-10. https://doi.org/10.15700/saje.v38n1a1431

Rauf, A. L. A., & Bakar, K. A. (2019). Effects of play on the social development of preschool children. *Creative Education, 10*(12), 2640-2648. https://doi.org/10.4236/ce.2019.1012191

Reimers, A. K., Schoeppe, S., Demetriou, Y., & Knapp, G. (2018). Physical activity and outdoor play of children in public playgrounds - do gender and social environment matter. *International Journal Environment Research Public Health, 15(*7), 13561366. https://doi.org10.3390/ijerph15071356

Republic of South Africa, (2021). Government Gazette No. 45601. Basic education laws amendment bill. https://www.gov.za/documents/basic-education-laws-amendment-bill-b2-2022-10-jan-2022-0000

Richards, M., Lawthom, R., & Runswick-Cole, K. (2018). Community based arts research for people with learning disabilities: challenging misconceptions about learning disabilities. *Disability and Society, 34*(2), 204-227, https://doi.org/10.1080/09687599.2018.1522243

Richland, L. E., Frausel, R. R., & Begolli, K. (2016). The SAGE Encyclopedia of Theory in Psychology. *Cognitive development.* SAGE Publications, Thousand Oaks. https://dx.doi.org/10.4135/9781483346274.n50

Richter, L., & Samuels, M. L. (2018). The South African universal preschool year: A case study of policy development and implementation. *Child Care, Health and Development*, *44*(1), 12-18. https://doi.org/10.1111/cch.12511

Richter, L. M., Daelmans, B., Lombardi, J., Heymann, J., Boo, F. L., Behrman, J. R., ... & Darmstadt, G. L. (2017). Investing in the foundation of sustainable development: pathways to scale up for early childhood development. *The lancet, 389*(10064), 103-118. https://doi.org/10.1016/S0140-6736(16)31698-1

Rieckmann, M. (2018). Learning to transform the world: Key competencies in Education for Sustainable Development. *Issues and Trends in Education for Sustainable Development*, *39*, 39-59.

Robinson, E. L., George, J., & Freeman, E. E. (2021). A systematic review of father-child play interactions and the impacts on child development. *Children, 8(*389), 1-9. https://doi.org/10.3390/children8050389

Rodney, S. A., Balestra, I., Bradac, M., Brammer, G., Broadhurst, T., Caminha, G. B., Chirivì, J. M. Diego, A. V. Filippenko, R. J. Foley, O. Graur, C. Grillo, S. Hemmati, J. Hjorth, A. Hoag, M. Jauzac, S. W. Jha, R. Kawamata, P. L. Kelly, C. McCully, B. Mobasher, A. Molino, M. Oguri, J. Richard, & Zitrin, A. (2018). Two peculiar fast transients in a strongly lensed host galaxy. *Nature Astronomy, 2*(4), 324-333. https://doi.org/10.1038/s41550-018-0405-4

Romm, N. R. A. (2015). Reviewing the transformative paradigm: A critical systemic and relational (indigenous) lens. *System Practical Action Research*, 28, 411–427.https://doi.org/10.1007/s11213-015-9344-5

Sacred Heart University Library. (2020). https://library.sacredheart.edu/c.php?g=29803&p=185919

Sandseter, E. B. H., Cordovil, R., Hagen, T. L., & Lopes. F. (2020). Barriers for outdoor play in Early Childhood Education and Care (ECEC) institutions: Perception of risk in children's play

among European parents and ECEC practitioners. *Child Care in Practice, 26*(2), 111-129. https://doi.org.10.1080/13575279.2019.1685461

Sandseter, E. B. H., Storli, R., & Sando, O. J. (2022). The dynamic relationship between outdoor environments and children's play. *International Journal of Primary, Elementary and Early Years Education, 3*(13), 97-110. https://doi.org/10.1080/03004279.2020.1833063

Schildkamp, K. (2019). Data-based decision-making for school improvement: Research insights and gaps. *Educational Research*, *61*(3), 257-273. https://doi.org/10.1080/00131881.2019.1625716

Sedibe, M., & Fourie, J. (2018). Exploring opportunities and challenges in parent-school partnerships in special needs schools in the Gauteng Province, South Africa. *Interchange, 49*, 433–444. https://doi-org.nwulib.nwu.ac.za/10.1007/s10780-018-9334-5

Seifert, L., Hacques, G., & Komar, J. (2022). The Ecological Dynamics Framework: An innovative approach to performance in extreme environments: A narrative review. *International Journal of Environmental Research and Public Health*, *19*(5), 2753-2771. https://doi.org/10.3390/ijerph19052753

Setlhare, R., Wood, L., & Meyer, L. (2016). Collaborated understandings of context-specific psychosocial challenges facing South African school children: A participatory approach. *Educational Research for Social Change 5*(2), 18-34. http://dx.doi.org/10.17159/2221-4070/2016/v5i2a2

Shaikh, M. R., Tunio, R. A., & Shah, I. A. (2017). Factors affecting to employee's performance. A study of Islamic banks. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *7*(1), 312-321. http://dx.doi.org/10.6007/IJARAFMS/v7-i1/2722

Shen, S., Doyle-Thomas, K. A., Beesley, L., Karmali, A., Williams, L., Tanel, N., & McPherson, A. C. (2017). How and why should we engage parents as co-researchers in health research? A scoping review of current practices. *Health Expectations*, *20*(4), 543-554. https://doi.org/10.1111/hex.12490

Shotter, J. (2019). Social Accountability and the Social Construction of'You'. Thirty Years On. Murmurations. *Journal of Transformative Systemic Practice, 2*(1), 67-96. https://doi.org/10.28963/2.1.8

Skarstein, T. H., & Ugelstad, I. B. (2020). Outdoors as an arena for science learning and physical education in kindergarten. *European early childhood education research journal, 28*(6), 923-938. https://doi.org/10.1080/1350293X.2020.1836590

Smaldino, P.E. (2020). How to translate a verbal theory into a formal model. *Social Psychology, 51*(4), 2151-2590. https://doi.org/10.1027/1864-9335/a000425

Soltero-González, L., & Gillanders, C. (2021). Rethinking home-school partnerships: Lessons learned from Latinx parents of young children during the COVID-19 era. *Early Childhood Education Journal*, *49*, 965-976. https://doi.org/10.1007/s10643-021-01210-4

Stonebanks, C. D., Bennett-Stonebanks, M., & Norrie, K. (2019). School Administration Gatekeeping on "Sensitive/Controversial" Research Topics: Applying Critical Inquiry to Empower Teacher Voice on Secularism. *International Review of Qualitative Research, 12*(4), 394-412. https://doi.org/10.1525/irqr.2019.12.4.394

Storli, R. (2021). Children's Rough-and-Tumble Play in a Supportive Early Childhood Education and Care Environment. *International journal of environmental research and public health, 18*(19), 1-12. https://doi.org/10.3390/ijerph181910469

Storli, R., & Sandseter, H. E. B. (2019). Children's play, well-being and involvement: How children play indoors and outdoors in Norwegian early childhood education and care institutions. *International Journal of Play, 8*(1), 65-78. https://doi.org/10.1080/21594937.2019.1580338

Sulyman, H. T. (2023). Influence of teacher-parent communication on pupils' academic performance in Ilorin East Local Government Area, Kwara State. *IFE PsychologIA: An International Journal*, *31*(1), 146-153. https://hdl.handle.net/10520/ejc-ifepsyc_v31_n1_a15

Surmiak, A. (2018). Confidentiality in qualitative research involving vulnerable participants: Researchers' perspectives. *Qualitative Social Research*, *19*(3), 393-418. https://doi.org/10.17169/fqs-19.3.3099

Sutton-Smith, B. (2016). *A history of children's play: The New Zealand playground, 1840-1950*. University of Pennsylvania Press.

Syriopoulou-Delli, C. K., Cassimos, D. C., & Polychronopoulou, S. A. (2016). Collaboration between teachers and parents of children with ASD on issues of education. *Research Development Disability, 55,* 330-45. https://doi.org.10.1016/j.ridd.2016.04.011

Thalib, S. B., & Ahmad, M. A. (2020). The Outdoor Learning Modules Based on Traditional Games in Improving Prosocial Behaviour of Early Childhood. *International Education Studies, 13*(10), 88-104. https://doi.org/10.5539/ies.v13n10p88

The Republic of South Africa. (2015). *National Integrated Early Childhood Development Policy*. Pretoria: Government Printers.

Thompson Burdine, J., Thorne, S., & Sandhu, G. (2021). Interpretive description: a flexible qualitative methodology for medical education research. *Medical education, 55*(3), 336-343. https://doi.org/10.1111/medu.14380

Tiplady, L. S. E., & Menter, H. (2021). Forest School for wellbeing: an environment in which young people can 'take what they need'. *Journal of Adventure Education and Outdoor Learning, 21*(2), 99-114. https://doi.org.10.1080/14729679.2020.1730206

Tuula, H., & Ingunn, B. U. (2020). Outdoors as an arena for science learning and physical education in kindergarten. *European Early Childhood Education Research Journal, 28*(6), 923-938. https://doi.org/10.1080/1350293X.2020.1836590

Ulfah, U., Prabawanto, S., & Jupri, A. (2017, September). Students' mathematical creative thinking through problem posing learning. *Journal of Physics Conference Series*, *895*(1), 1-8 012097). https://doi.org/10.1080/1350293X.2016.1213567

Undiyaundeye, F. A., & Baseka, J. A. (2018). Processes of children's learning and speech development in early years. *International Journal of Social Sciences, 4*(2), 126-134. https://dx.doi.org/10.20319/pijss.2018.42.126134

UNESCO (United Nations Educational, Scientific and Cultural Organisation). (2015). *Rethinking education: towards a global common good*. Paris.

United Nations International Children's Emergency Fund. (2018). *Learning through play*. New York. Retrieved from http://www.unicef.org/publications

Van As, A. J. & Excell, L. (2018). Strengthening early childhood teacher education towards a play-based pedagogical approach through a music intervention programme. *South African Journal of Childhood Education*, *8*(1), 525-250. https://doi.org/10.4102/sajce.v8i1.525

Veitch, J., Ball, K., Flowers, E., Deforche, D., & Timperio, A. (2020). Children's ratings of park feature that encourage park visitation, physical activity and social interaction. *Urban Forestry and Urban Greening Journal, 58*, 1-8. https://doi.org/10.1016/j.ufug.2020.126963

Vihman, M. M. (2017). Learning words and learning sounds: Advances in language development. *British Journal of Psychology*, *108*(1), 1-27. https://doi.org/10.1111/bjop.12207

Vinathe, S. M., & Derek, B. (2016). Bringing nature to school to promote children's physical activity. *Sports Medicine, 46*(7), 955-962. https://doi.org/10.1007/s40279-016-0487-z

Viskovic, I., & Visnjic Jevtic, A. (2017). Teachers' opinions on the possibilities of collaboration with parents. *Croatian Journal of Education*, *19*(1), 117-146. https://doi.org/10.15516/cje.v19i1.2049

Visser, M. M., Juan, A. L., & Hannan, S. M. (2019). Learning experiences, school entry skills and later mathematics achievement in South Africa. *South African Journal of Childhood Education, 9*(1), 1-9. https://goi.org/10.4102/sajce.v9i.597

Wainwright, N., Goodway, J., Whitehed, M., Williams, A., & Kirk, D. (2016). The Foundation Phase in Wales – play-based curriculum that supports the development of physical literacy. *Education, 44*(5), 513-524. https://doi.org,10.1080/03004279.2016.117636

Wang, M. T., Degol, J. L., & Henry, D. A. (2019). An integrative development-in-sociocultural-context model for children's engagement in learning. *American Psychologist*, *74*(9), 1086-1096. https://doi.org/10.1037/amp0000522

Waters, J., & Rekers, A. (2019). Young children's outdoor play-based learning. *Early Childhood Development*. Encyclopaedia

Wei, L. (2018). Trans languaging as a practical theory of language. *Applied Linguistics*, *39*(1), 9-30. https://doi.org/10.1093/applin/amx039

Wieder, S. (2017). The power of symbolic play in emotional development through the DIR lens. *Topics in Language Disorders*, *37*(3), 259-281. https://doi.org/10.1097/TLD.0000000000000126

Willgens, A. M., & Erdman, E. A. (2020). Using Hippotherapy strategies for children and youth with Cerebral Palsy. *Cerebral Palsy.* Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-319-74558-9163

Williams, M., & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review*, *15*(1), 45-55. http://www.imrjournal.org/uploads/1/4/2/8/14286482/imr-v15n1art4.pdf

Witek, M. A. (2017). Filling in: Syncopation, pleasure and distributed embodiment in groove. *Music Analysis*, *36*(1), 138-160. https://doi.org/10.1111/musa.12082

Wood, L. (2020). *Participatory action learning and action research: Theory practice and process*. Routledge York. http://www.unicef.org/publications

Wood, L., & Zuber-Skerrit, O. (2013). PALAR as a methodology for community engagement by faculties of education. *South African Journal of Education*, *33*(4), 1-15. https://doi.org/10.15700/201412171322

World Health Organization. (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak.*

World Health Organization. (2018). *Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential*.

Yahya, R. (2016). Bridging home and school: Understanding immigrant mothers' cultural capital and concerns about play-based learning. *Early Years,* *36*(4), 340-352. https://doi.ord/1080/09575146.2015.1110786

Yalcin, F. (2015). *A cross cultural study on outdoor play: parent and teacher perspective*. Middle East Technical University.

Yıldırım, G., & Akamca, G. Ö. (2017). The effect of outdoor learning activities on the development of preschool children. *South African Journal of Education*, *37*(2), 1-10. https://doi.org/10.15700/saje.v37n2a1378

Yogman, M., Garner, A., Hutchinson, J., Hirsh-Pasek, K., Golinkoff, R. M., Baum, R., & Committee on Psychosocial Aspects of Child and Family Health. (2018). The power of play: A pediatric role in enhancing development in young children. *Pediatrics,* *142*(3), 105-130. https://doi.org/10.1542/peds.2018-2058

Zhao, J. L., Jiang, W. T., Wang, X., Cai, Z. D., Liu, Z. H., & Liu, G. R. (2020). Exercise, brain plasticity, and depression. *CNS Neuroscience & Therapeutics*, *26*(9), 885-895. https://doi.org.10.1111/cns.13385

Zuber-Skerritt, O. (2015). Participatory action learning and action research (PALAR) for community engagement: A theoretical framework. *Educational research for social change, 4*(1), 5-25. https://core.ac.uk/download/pdf/143898604.pdf

ADDENDUM A – LANGUAGE EDITOR

62 Ferguson Road
Glenwood
DURBAN 4001
Tel: 072 442 7896
Email: deanne.collins30@gmail.com

17 November 2023

This serves to confirm that I have edited the dissertation, "Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development", by L. Maloka, student number 26174170.

DISCLAIMER: The editor cannot be held responsible for any errors introduced due to changes being made to the document after the editing is complete.

Yours sincerely,

D Collins

(Ms) Deanne Collins (MA)

ADDENDUM B – CONSENT FORM: FSDBE

Enquiries: M.Z. Thango
Ref: Research Permission: L. Maleka
Tel: 051 404 8908
Email: MZ.Thango@fseducation.gov.za

education
Department of Education
FREE STATE PROVINCE

Frikkie Meyer Boulevard
Unit 11 Northfork
Vanderbijlpark
1911

Dear Ms. L. Maleka

PERMISSION TO CONDUCT RESEARCH IN THE FREE STATE DEPARTMENT OF EDUCATION: FEZILE DABI DISTRICT

This letter serves to inform you that you have been granted permission to conduct research in the Free State Department of Education within the Fezile Dabi Education District. The details in relation to your research project with North-West University are as follows:

Topic: Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

1. **List of schools involved:** Tsatsi Primary School.
2. **Target Population:** Two grade R teachers and four parents of grade R learners at the selected school.
3. **Period of research:** From the second week of February 2023 until 30 September 2023. Please note that the department does not allow any research to be conducted during the fourth term (quarter) of the academic year. Should you fall behind your schedule by three months to complete your research project in the approved period, you will need to apply for an extension. The researcher is expected to request permission from the school principals to conduct research at schools.
4. The approval is subject to the following conditions:
   - 4.1 The collection of data should not interfere with the normal tuition time or teaching process.
   - 4.2 A bound copy of the research document should be submitted to the Free State Department of Education, Room 101, 1st Floor, Thuto House, St. Andrew Street, Bloemfontein or can be emailed to the above-mentioned email address.
   - 4.3 You will be expected, on completion of your research study to make a presentation to the relevant stakeholders in the Department.
   - 4.4 The ethics documents must be adhered to in the discourse of your study in our department.
5. Please note that costs relating to all the conditions mentioned above are your own responsibility.

Yours Sincerely,

Mr. MZWANDILE JACOBS
DIRECTOR: QUALITY ASSURANCE, M&E AND STRATEGIC PLANNING

DATE: 09/12/2022

ADDENDUM C – PERMISSION LETTER FROM FS DOE

education
Department of Education
FREE STATE PROVINCE

Enquiries: M.Z. Thango
Ref: Notification of research: L. Maloka
Tel. 051 404 8808
Email: MZ.Thango@fseducation.gov.za

District Director
Fezile Dabi District

Dear Dr. Chuta

NOTIFICATION OF RESEARCH: PERMISSION TO CONDUCT RESEARCH PROJECT IN FEZILE DABI DISTRICT

This letter serves to inform you that Ms. L. Maloka has been granted permission to conduct research in the Fezile Dabi District under the auspices of North-West University. The details in relation to the research project are as follows:

Topic: Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

1. **List of schools involved:** Tsatsi Primary School.
2. **Target Population:** Two grade R teachers and four parents of grade R learners at the selected school.
3. **Period of research:** From the second week of February 2023 until 30 September 2023. Please note the department does not allow any research to be conducted during the fourth term (quarter) of the academic year nor during normal school hours. The researcher is expected to request permission from the school principals to conduct research at schools.
4. **Research benefits:** This study will empower Grade R teachers and parents on how to enhance outdoor play-based learning. How outdoor play-based learning is useful and how well it will be implemented. Grade R children at Tsatsi Primary School will benefit, and in the long run, all Grade R Children in the Free State will benefit. Grade R teachers will follow proper guidelines to implement outdoor play-based learning, which will be beneficial. Department, districts, and principals will gain knowledge and skills about the importance of outdoor play, and they will be able to provide relevant resources for Grade R as well as the necessary support to Grade R teachers and parents in order for outdoor play-based learning to occur in Grade R.
5. The Sub-directorate of Research and policy will make the necessary arrangements for the researchers to present the findings and recommendations to the relevant officials in the Department.

Yours Sincerely,

Mr. MSAMU W. JACOBS
DIRECTOR: QUALITY ASSURANCE, M&E AND STRATEGIC PLANNING

DATE: 09/12/2022

RESEARCH NOTIFICATION: L. MALOKA: 09 DECEMBER 2022: FEZILE DABI DISTRICT

QASPE, M&E and Strategic Planning Directorate Private Bag X20565, Bloemfontein, 9300 • Thoto House, Room 181, 1st Floor, St Andrew Street, Bloemfontein

www.fs.doe.gov.za

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

(DBE)
(Fidel Castro Building, Room 1601, 16th Floor, 55 Elizabeth Street, Bloemfontein, 9300)
(Private Bag X20565, Bloemfontein, 9300)

Faculty of Education

(Research entity details)

Tel: 018 111 1111
Email: Name.Surname@nwu.ac.za

Date: 22/09/2022

PERMISSION LETTER: FREE STATE DEPARTMENT OF EDUCATION

I herewith wish to request your permission for Grade R teachers and parents to participate in this research, which involves the implementation of outdoor play-based learning in Grade R. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

ETHICS APPLICATION NUMBER

xxx

PROJECT SUPERVISOR: Prof. M. K. Koen
CO-SUPERVISOR: Dr P. Lunga
Ms P. Matu
ADDRESS: NWU Potchefstroom
Faculty of Education
Internal Box 539
Potchefstroom

2531
CONTACT NUMBER: 083 308 4230
MEMBER OF PROJECT TEAM MEd-Student: Lerato Maloka
ADDRESS: North Fork unit 11, Frikkie Meyer boulevard
Vanderbjilpark 1911

CONTACT NUMBER: 0782249153

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
Contact person: Ms Erna Greyling, E-mail: Erna.Greyling@nwu.ac.za, Tel. (018) 299 4656

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also obtained from the provincial Department of Basic Education/other relevant body.

What is this research about?
The aims of this research are:

- The aim of this research is to focus on effective collaboration between parents and teachers in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The objectives are to explore the current situation regarding outdoor play-based learning for education for sustainable development in Grade R.
- And to develop collaborative strategies to promote outdoor play-based learning for education for sustainable development in Grade R.

Participants

- Grade R teachers and parents that have children doing Grade R

What is expected of the participants?

What is expected from co-researchers could include to attend meetings regularly, to participate in the meetings, to keep a reflective diary, to share ideas to solve problems, to solve the conflict in a positive way to let the group know if you cannot attend the discussions. All the co-researchers will be given opportunities to learn from one another, as well as collaborate towards a common

objective. They will all be involved in some capacity in the study. This will be possible because the group will not be too small and will be consistent throughout the project to ensure that conversations are productive.

The study will consist of 2 cycles, ach cycle will consist of steps such as planning, acting, observing, and reflecting, all of which contribute to a better understanding of the problem and how to collaboratively handle it. Throughout this cycle 1, teachers and parents will address existing challenges or situations that occur when implementing outdoor play-based learning. They will discuss and explore various options and suggestions for dealing with the situation. In cycle 2, co-researchers will develop and share ideas on ways to promote outdoor play-based learning in Grade R.

Benefits to the participants

- Grade R teachers and parents will be able to build relationship and collaborate in order to promote learning through play.
- Teachers will learn how to implement outdoor play-based learning in Grade R using limited resources and will understand the importance of play in Grade R.
- Parental involvement will be improved and also parents will understand the importance of supporting their children learning and communicating with teachers.

Risks involved for participants

To reduce the risk of this study, I will use a valid study design; thus, the study will not be harmful to co-researchers and will not involve any risk because conflict will be managed in the best interests of all team members.

Confidentiality and protection of identity

The identity of co-researchers will be kept secret or anonymous, and promises will go beyond not publishing their names to include not utilising self-identifying remarks and material. Privacy and confidentiality of co-researchers will be adequately protected.

Dissemination of findings

The findings will be presented to the principal, parents (community), and staff at a school meeting that my team will coordinate. Following that, we will meet with the district facilitators to discuss

our findings. We could hold workshops with grade R parents to share our knowledge, followed by a workshop with the grade R teacher. We can proceed to the fezile Dabi district director and the Free State Department of Education to explain our findings. Present program findings to local community groups and other interested parties.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

DECLARATION BY PRINCIPAL/OTHER RELEVANT PERSON:

By signing below, I ……..……. agree to give permission for the research to take place with the identified participants in the study entitled:

[Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development]

I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at (place)_____on (date) _____/_____/20_____

Signature of School Principal/Relevant person

ADDENDUM D – PERMISSION LETTER FROM SCHOOL PRINCIPAL

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

(Mrs M Motshoso)
(1126 Leoka street, Zamdela, Sasolburg)

Faculty of Education

(Research entity details)

Tel: 018 111 1111
Email: Name.Surname@nwu.ac.za

Date: 22/09/2022

PERMISSION LETTER: SCHOOL PRINCIPAL

I herewith wish to request your permission for Grade R teachers and parents to participate in this research, which involves the implementation of outdoor play-based learning in Grade R. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

ETHICS APPLICATION NUMBER

xxx

PROJECT SUPERVISOR: Prof. M. K. Koen
CO-SUPERVISOR: Dr P. Lunga
Ms P. Matu
ADDRESS: NWU Potchefstroom
Faculty of Education
Internal Box 539

Potchefstroom
2531
CONTACT NUMBER: 083 308 4230
MEMBER OF PROJECT TEAM MEd-Student: Lerato Maloka
ADDRESS: North Fork unit 11, Frikkie Meyer boulevard
Vanderbjilpark 1911

CONTACT NUMBER: 0782249153
FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
Contact person: Ms Erna Greyling, E-mail: Erna.Greyling@nwu.ac.za, Tel. (018) 299 4656

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also obtained from the provincial Department of Basic Education/other relevant body.

What is this research about?

The aims of this research is:

- The aim of this research is to focus on effective collaboration between parents and teachers in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The objectives are to explore the current situation regarding outdoor play-based learning for education for sustainable development in Grade R.
- And to develop collaborative strategies to promote outdoor play-based learning for education for sustainable development in Grade R.

Participants

- Grade R teachers and parents that have children doing Grade R

What is expected of the participants?

What is expected from co-researchers could include to attend meetings regularly, to participate in the meetings, to keep a reflective diary, to share ideas to solve problems, to solve the conflict in a positive way to let the group know if you cannot attend the discussions. All the co-researchers will be given opportunities to learn from one another, as well as collaborate towards a common objective. They will all be involved in some capacity in the study. This will be possible because

the group will not be too small and will be consistent throughout the project to ensure that conversations are productive.

The study will consist of 2 cycles, ach cycle will consist of steps such as planning, acting, observing, and reflecting, all of which contribute to a better understanding of the problem and how to collaboratively handle it. Throughout this cycle 1, teachers and parents will address existing challenges or situations that occur when implementing outdoor play-based learning. They will discuss and explore various options and suggestions for dealing with the situation. In cycle 2, co-researchers will develop and share ideas on ways to promote outdoor play-based learning in Grade R.

Benefits to the participants

- Grade R teachers and parents will be able to build relationship and collaborate in order to promote learning through play.
- Teachers will learn how to implement outdoor play-based learning in Grade R using limited resources and will understand the importance of play in Grade R.
- Parental involvement will be improved and also parents will understand the importance of supporting their children learning and communicating with teachers.

Risks involved for participants

To reduce the risk of this study, I will use a valid study design; thus, the study will not be harmful to co-researchers and will not involve any risk because conflict will be managed in the best interests of all team members.

Confidentiality and protection of identity

The identity of co-researchers will be kept secret or anonymous, and promises will go beyond not publishing their names to include not utilising self-identifying remarks and material. Privacy and confidentiality of co-researchers will be adequately protected.

Dissemination of findings

The findings will be presented to the principal, parents (community), and staff at a school meeting that my team will coordinate. Following that, we will meet with the district facilitators to discuss our findings. We could hold workshops with grade R parents to share our knowledge, followed by a workshop with the grade R teacher. We can proceed to the fezile Dabi district director and the

Free State Department of Education to explain our findings. Present program findings to local community groups and other interested parties.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

DECLARATION BY PRINCIPAL/OTHER RELEVANT PERSON:

By signing below, I ……..……. agree to give permission for the research to take place with the identified participants in the study entitled:

[Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development]

I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at (place)_____on (date) _____/_____/20____

_____

Signature of School Principal/Relevant person

ADDENDUM E – CO-RESEARCHER INFORMATION AND CONSENT FORM (TEACHERS)

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

(Recipient name)
(Recipient address)
(Recipient address)
(Recipient address)

Faculty of Education

(Research entity details)

Tel: 018 111 1111
Email: Name.Surname@nwu.ac.za

Date: 22/09/2022

PARTICIPANT INFORMATION AND CONSENT FORM: GRADE R TEACHERS

I herewith wish to request your permission for Grade R teachers and parents to participate in this research, which involves the implementation of outdoor play-based learning in Grade R. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

ETHICS APPLICATION NUMBER

xxx

PROJECT SUPERVISOR: Prof. M. K. Koen
CO-SUPERVISOR: Dr P. Lunga
Ms P. Matu
ADDRESS: NWU Potchefstroom
Faculty of Education

Internal Box 539
Potchefstroom
2531
CONTACT NUMBER: 083 308 4230
MEMBER OF PROJECT TEAM MEd-Student: Lerato Maloka
ADDRESS: North Fork unit 11, Frikkie Meyer boulevard
Vanderbjilpark 1911

CONTACT NUMBER: 0782249153

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
Contact person: Ms Erna Greyling, E-mail: Erna.Greyling@nwu.ac.za, Tel. (018) 299 4656

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also obtained from the provincial Department of Basic Education/other relevant body.

What is this research about?
The aims of this research are:

- The aim of this research is to focus on effective collaboration between parents and teachers in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The objectives are to explore the current situation regarding outdoor play-based learning for education for sustainable development in Grade R.
- And to develop collaborative strategies to promote outdoor play-based learning for education for sustainable development in Grade R.

Participants

- Grade R teachers and parents that have children doing Grade R

What is expected of the participants?
All the co-researchers will be given opportunities to learn from one another, as well as collaborate towards a common objective. They will all be involved in some capacity in the study. This will be

possible because the group will not be too small and will be consistent throughout the project to ensure that conversations are productive.

The co-researchers will be expected to participate in the two cycles of action learning, which include steps such as planning, acting, observing, and reflecting, all of which contribute to a better understanding of the problem and how to handle it collaboratively. The first session will be a brainstorming session, during which the co-researchers will be organized, an ethical agreement will be established, and a needs analysis will be conducted. Cycle 1 will have four to five sessions. The recorded action learning group discussions will also be used. Cycle 2 will consist of five to six sessions in which co-researchers will reflect on the events of the first cycle. Co-researchers will continue to collaborate through regular sessions. The photo voice, collage, drawing, and narratives methods will be used to generate data in this cycle. Eventually, participants will consider and discuss the findings. Participants will reflect on the results of cycles 1 and 2 and work collaboratively.

Benefits to the participants

- Grade R teachers and parents will be able to build relationship and collaborate in order to promote learning through play.
- Teachers will learn how to implement outdoor play-based learning in Grade R using limited resources and will understand the importance of play in Grade R.
- Parental involvement will be improved and also parents will understand the importance of supporting their children learning and communicating with teachers.

Risks involved for participants

Teachers and parents will be able to collaborate in order to address issues that arise when implementing outdoor play-based learning for education for sustainable development.

Confidentiality and protection of identity

The identity of co-researchers will be kept secret or anonymous, and promises will go beyond not publishing their names to include not utilising self-identifying remarks and material. Privacy and confidentiality of co-researchers will be adequately protected. Throughout the different cycles, each participant will be treated with respect, and they will understand that their voice and opinion are valued. The responses to the focus group discussions will be completed anonymously, and it

will be emphasized that participation is entirely voluntary. If co-researchers need to withdraw from the study, they will be able to do so without punishments.

Dissemination of findings

The findings will be presented to the principal, parents (community), and staff at a school meeting that my team will coordinate. Following that, we will meet with the district facilitators to discuss our findings. We could hold workshops with grade R parents to share our knowledge, followed by a workshop with the grade R teacher. We can proceed to the fezile Dabi district director and the Free State Department of Education to explain our findings. Present program findings to local community groups and other interested parties.
If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

Yours sincerely
(Ms L Maloka)

DECLARATION BY PRINCIPAL/OTHER RELEVANT PERSON:

By signing below, I ……..……. agree to give permission for the research to take place with the identified participants in the study entitled:

[Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development]

I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.

- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at (place)_____on (date) _____/_____/20____

_____

Signature of participant

ADDENDUM F – CO-RESEARCHER INFORMATION AND CONSENT FORM (PARENTS)

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

(Recipient name)
(Recipient address)
(Recipient address)
(Recipient address)

Faculty of Education

(Research entity details)

Tel: 018 111 1111
Email: Name.Surname@nwu.ac.za

Date: 22/09/2022

PARTICIPANT INFORMATION AND CONSENT FORM: PARENTS

I herewith wish to request your permission for Grade R teachers and parents to participate in this research, which involves the implementation of outdoor play-based learning in Grade R. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

ETHICS APPLICATION NUMBER

xxx

PROJECT SUPERVISOR: Prof. M. K. Koen
CO-SUPERVISOR: Dr P. Lunga
Ms P. Matu
ADDRESS: NWU Potchefstroom
Faculty of Education
Internal Box 539

Potchefstroom
2531
CONTACT NUMBER: 083 308 4230
MEMBER OF PROJECT TEAM MEd-Student: Lerato Maloka
ADDRESS: North Fork unit 11, Frikkie Meyer boulevard
Vanderbjilpark 1911

CONTACT NUMBER: 0782249153

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
Contact person: Ms Erna Greyling, E-mail: Erna.Greyling@nwu.ac.za, Tel. (018) 299 4656

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also obtained from the provincial Department of Basic Education/other relevant body.

What is this research about?
The aims of this research are:

- The aim of this research is to focus on effective collaboration between parents and teachers in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The objectives are to explore the current situation regarding outdoor play-based learning for education for sustainable development in Grade R.
- And to develop collaborative strategies to promote outdoor play-based learning for education for sustainable development in Grade R.

Participants

- Grade R teachers and parents that have children doing Grade R

What is expected of the participants?

What is expected from co-researchers could include to attend meetings regularly, to participate in the meetings, to keep a reflective diary, to share ideas to solve problems, to solve the conflict in a positive way to let the group know if you cannot attend the discussions. All the co-researchers

will be given opportunities to learn from one another, as well as collaborate towards a common objective. They will all be involved in some capacity in the study. This will be possible because the group will not be too small and will be consistent throughout the project to ensure that conversations are productive.

The study will consist of 2 cycles, ach cycle will consist of steps such as planning, acting, observing, and reflecting, all of which contribute to a better understanding of the problem and how to collaboratively handle it. Throughout this cycle 1, teachers and parents will address existing challenges or situations that occur when implementing outdoor play-based learning. They will discuss and explore various options and suggestions for dealing with the situation. In cycle 2, co-researchers will develop and share ideas on ways to promote outdoor play-based learning in Grade R.

Benefits to the participants

- Grade R teachers and parents will be able to build relationship and collaborate in order to promote learning through play.
- Teachers will learn how to implement outdoor play-based learning in Grade R using limited resources and will understand the importance of play in Grade R.
- Parental involvement will be improved and also parents will understand the importance of supporting their children learning and communicating with teachers.

Risks involved for participants

To reduce the risk of this study, I will use a valid study design; thus, the study will not be harmful to co-researchers and will not involve any risk because conflict will be managed in the best interests of all team members.

Confidentiality and protection of identity

The identity of co-researchers will be kept secret or anonymous, and promises will go beyond not publishing their names to include not utilising self-identifying remarks and material. Privacy and confidentiality of co-researchers will be adequately protected.

Dissemination of findings

The findings will be presented to the principal, parents (community), and staff at a school meeting that my team will coordinate. Following that, we will meet with the district facilitators to discuss our findings. We could hold workshops with grade R parents to share our knowledge, followed by a workshop with the grade R teacher. We can proceed to the fezile Dabi district director and the Free State Department of Education to explain our findings. Present program findings to local community groups and other interested parties.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

DECLARATION BY PRINCIPAL/OTHER RELEVANT PERSON:

By signing below, I ……..……. agree to give permission for the research to take place with the identified participants in the study entitled:

[Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development]

I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at (place)_____on (date) _____/_____/20____

_____

Signature of participant

ADDENDUM G – SGB INFORMATION AND CONSENT FORM

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

(SGB Chairperson)
(Tsatsi Primary School)
(1126 Leoka street, Zamdela, Sasolburg)

Faculty of Education

(Research entity details)

Tel: 018 111 1111
Email: Name.Surname@nwu.ac.za

Date: 22/09/2022

GOODWILL PERMISSION: SCHOOL GOVERNING BODY/OTHER RELEVANT BODY

I herewith wish to request your permission for Grade R teachers and parents to participate in this research, which involves the implementation of outdoor play-based learning in Grade R. Prior to granting permission, please acquaint yourself with the information below.

The details of the research are as follows:

TITLE OF THE RESEARCH PROJECT:

Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development.

ETHICS APPLICATION NUMBER

xxx

PROJECT SUPERVISOR: Prof. M. K. Koen
CO-SUPERVISOR: Dr P. Lunga
Ms P. Matu
ADDRESS: NWU Potchefstroom

Faculty of Education
Internal Box 539
Potchefstroom
2531
CONTACT NUMBER: 083 308 4230
MEMBER OF PROJECT TEAM MEd-Student: Lerato Maloka
ADDRESS: North Fork unit 11, Frikkie Meyer boulevard
Vanderbjilpark 1911

CONTACT NUMBER: 0782249153

FACULTY OF EDUCATION RESEARCH ETHICS COMMITTEE
Contact person: Ms Erna Greyling, E-mail: Erna.Greyling@nwu.ac.za, Tel. (018) 299 4656

This study has been approved by the Research Ethics Committee of the Faculty of Education of the North-West University and will be conducted according to the ethical guidelines of this committee. Permission was also obtained from the provincial Department of Basic Education/other relevant body.

What is this research about?

The aims of this research are:

- The aim of this research is to focus on effective collaboration between parents and teachers in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The objectives are to explore the current situation regarding outdoor play-based learning for education for sustainable development in Grade R.
- And to develop collaborative strategies to promote outdoor play-based learning for education for sustainable development in Grade R.

Co-researchers

- Grade R teachers and parents that have children doing Grade R

What is expected of the participants?

All the co-researchers will be given opportunities to learn from one another, as well as collaborate towards a common objective. They will all be involved in some capacity in the study. This will be

possible because the group will not be too small and will be consistent throughout the project to ensure that conversations are productive.

The co-researchers will be expected to participate in the two cycles of action learning, which include steps such as planning, acting, observing, and reflecting, all of which contribute to a better understanding of the problem and how to handle it collaboratively. The first session will be a brainstorming session, during which the co-researchers will be organized, an ethical agreement will be established, and a needs analysis will be conducted. Cycle 1 will have four to five sessions. The recorded action learning group discussions will also be used. Cycle 2 will consist of five to six sessions in which co-researchers will reflect on the events of the first cycle. Co-researchers will continue to collaborate through regular sessions. The photo voice, collage, drawing, and narratives methods will be used to generate data in this cycle. Eventually, participants will consider and discuss the findings. Participants will reflect on the results of cycles 1 and 2 and work collaboratively.

Benefits to the participants

- Grade R teachers and parents will be able to build relationship and collaborate in order to promote learning through play.
- Teachers will learn how to implement outdoor play-based learning in Grade R using limited resources and will understand the importance of play in Grade R.
- Parental involvement will be improved and also parents will understand the importance of supporting their children learning and communicating with teachers.

Risks involved for participants

Teachers and parents will be able to collaborate in order to address issues that arise when implementing outdoor play-based learning for education for sustainable development.

Confidentiality and protection of identity

The identity of co-researchers will be kept secret or anonymous, and promises will go beyond not publishing their names to include not utilising self-identifying remarks and material. Privacy and confidentiality of co-researchers will be adequately protected. Throughout the different cycles, each participant will be treated with respect, and they will understand that their voice and opinion are valued. The responses to the focus group discussions will be completed anonymously, and it

will be emphasized that participation is entirely voluntary. If co-researchers need to withdraw from the study, they will be able to do so without punishments.

Dissemination of findings

The findings will be presented to the principal, parents (community), and staff at a school meeting that my team will coordinate. Following that, we will meet with the district facilitators to discuss our findings. We could hold workshops with grade R parents to share our knowledge, followed by a workshop with the grade R teacher. We can proceed to the fezile Dabi district director and the Free State Department of Education to explain our findings. Present program findings to local community groups and other interested parties.

If you have any further questions or enquiries regarding your participation in this research, please contact the researchers for more information.

Yours sincerely
(Ms L Maloka)

DECLARATION BY PRINCIPAL/OTHER RELEVANT PERSON:

By signing below, I ……..……. agree to give permission for the research to take place with the identified participants in the study entitled:

[Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development]

I declare that:

- I have read this information and consent form and understand what is expected of the participants in the research.
- I have had a chance to ask questions to the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and participants will not be pressurised to take part.
- Participants may choose to leave the study at any time and will not be penalised or prejudiced in any way.

- Participants may be asked to leave the research process before it is completed, if the researcher feels it is in their best interests, or if they do not follow the research procedures, as agreed to.

Signed at (place)_____on (date) _____/_____/20____

_____

Signature of SGB Chairperson/Relevant responsible person

ADDENDUM H – ETHICAL AGREEMENT

1. Ethical agreement between

North-West University COMBER Project NWU

and

Grade R teachers and parents in (School X) in Sasolburg as outlined in Wood (2020:97-99)

As a researcher in one of the North-West University (NWU) projects, I abide by the rules of the Research Ethics Committee of the Faculty of Education (EduREC), all NWU policies, and all laws and regulations applicable to my field of study. Furthermore, I pledge to follow the ethical principles and responsibilities outlined in the Singapore Statement on Research Integrity (22 September 2010) in all research endeavours that I undertake as a NWU researcher.

2. Focus of the project

To partner with COMBER in a participatory action learning and action research (PALAR) project to

Focus on collaboration between Grade R teachers and parents to promote outdoor play-based leaning for education for sustainable development:

- Tsatsi Primary school, 1126 Leoka Street, Zamdela Sasolburg

AIMS OF THE PROJECT

Identify the strengths, challenges and needs of the Grade R teachers and parents in implementing outdoor play-based learning for education for sustainable development**.**

- The proposed study's goal is to focus on effective parent-teacher collaboration in order to promote outdoor play-based learning for education for sustainable development in Grade R.
- The goals are to investigate the current state of outdoor play-based learning for education for sustainable development in Grade R.
- Create collaborative strategies to promote outdoor play-based learning in Grade R education for sustainable development.
- The aim is to recruit two Grade R teachers and four parents. Throughout the process, I will adhere to the ethical guidelines of Edu-Rec.

For NWU COMBER

- To have access to all data generated in the project for research purposes.
- Conference proceedings, articles or other output will acknowledge the input of the participants by name and / or photographs.

For participants

- To have access to all data generated as part of the development on implementing outdoor play-based learning.
- To remain the first source of communication between community and university.
- To create guidelines that can be used in implementing outdoor play-based learning for education for sustainable development.

3. SELECTION OF THE PARTICIPANTS

The participants will be recruited from (School X). The ALS discussion will take place at the school in Zamdela Sasolburg in the Free State. The suitability of the venue for the ALS is based on the fact that the venue will be of no cost to the research group and it will also be private. Permission will be obtained from the principal, Mrs M, to use the staff room. An independent recruiter, Mr B (a Grade 4 and 5 social science teacher in School X) will be contacted and I will give a flyer to the independent recruiter to explain the purpose of the study. When teachers and parents in Grade R agree to meet with me, the independent recruiter will invite them to a meeting via mail or WhatsApp. The independent recruiter will then convene a meeting with the parents and Grade R teachers to discuss the purpose of the study. If participants contact me, I will set up a meeting where I will explain the aim of the project to the possible participants.

The following participants will participate in the project:

4. ACTION LEARNING SET (ALS)

Each one signing the ethical agreement, will form the Action Learning Set (ALS) or core research team.

- Attend all meetings as agreed upon.
- All members of the team participate.
- Data will be provided to participants.
- Share all data generated and make it available for use by all of us.
- Translate data and outputs as needed.
- Keep group discussions confidential as needed.
- Participate in all activities.
- Respect and value each member's contributions responsibilities of each party

5. Protection from harm

- All members of the group give informed consent to participate in the project.
- In the two cycles (three to four sessions per cycle) the participants in the ALS will explore and share their perspectives and experiences of outdoor PBL.
- Tt will allow the co-researchers and me to express our feelings in a safe environment (World Health Organization, 2020).
- Recorded ALS discussions, and arts-based data generation methods including photovoice, collage and drawings will be used to generate the data.

6. Monitoring of ethical agreement

We will review this agreement ONCE a month and reflect on our performance in the project by:

Signing the agreement, we indicate that we are satisfied that the research project will be conducted ethically.

NWU **Grade R teachers:**

Parents:

Lerato Maloka

Prof M Koen

Dr P Lunga

Ms P Matu

Date

ADDENDUM I – ETHICS APPROVAL

Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: http://www.nwu.ac.za

Senate Committee for Research Ethics
Tel: 018 103 4440
Email: Fezisa.Maleni@nwu.ac.za

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Education Sciences Research Ethics Committee (EduREC)** on 24 November 2022, the Education Sciences Research Ethics Committee hereby **approves** your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-SCRE) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Collaboration between Grade R teachers and parents to promote outdoor play-based learning for education for sustainable development

Study Leader/Supervisor (Principal Investigator)/Researcher: Prof M Koen

Student / Team: L Maloka (MEd student – 26174170), Dr P Lunga, Ms PP Matu

Ethics number:

N	W	U	-	0	0	3	1	7	-	2	2	-	A	2
Institution				Study Number						Year			Status	

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type: Single study

Commencement date: 24/11/2022 **Risk:** Low

Expiry date: 24/11/2023

Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.

Special in process conditions of the research for approval (if applicable):

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the ES-REC:*
  - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
  - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the ES-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-SCRC and ES-REC reserves the right to:*
  - *request access to any information or data at any time during the course or after completion of the study;*

- *to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
- *withdraw or postpone approval if:*
  - *any unethical principles or practices of the study are revealed or suspected;*
  - *it becomes apparent that any relevant information was withheld from the ES-REC or that information has been false or misrepresented;*
  - *submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or*
  - *new institutional rules, national legislation or international conventions deem it necessary.*

The ES-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the ES-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely

Prof CP van der Vyver
Chairperson NWU Education Sciences Research Ethics Committee

Original details: (22301930) C:\Users\22301930\Desktop\ETHICS APPROVAL LETTER OF STUDY.docm
8 November 2018

Current details: (22301930) M:\22301930\Monitoring and Reporting Cluster\Ethics\Certificates\Templates\Research Ethics Approval Letters\8.1.5.4.1 ES-REC Ethical Approval Letter.docm
8 December 2018

File reference: 8.1.5.4.2

ADDENDUM J – EVENT PLAN FOR FUNDRAISING EVENTS

Event	Dates
1. Model show	01/09/2023
2. Tuck shop	01/09/2023
3. Picnic	18/09/2023
4. Civvies	13/10/2023
5. Educational tour	03/11/2023

ADDENDUM K– BUDGET FOR OUTDOOR PBL RESOURCES 2023

Items	Projected subtotals
1. Paints x 5	R400
2. Kids Sports Throwing cones, tossing rings, bean bags and mash bags set x 20	R655
3. Sand	R800
4. Junior outdoor football set	R900
5. Warrior obstacle course	R3050
6. Bowling set	R250
	R 6055

ADDENDUM L– TURNITIN SIMILARITY INDEX

21656568:FOR_Submission_L._Maloka-26174170-Final_M.Ed-Disseration_final_26_November_2023(1).docx

ORIGINALITY REPORT

16%	14%	4%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	repository.nwu.ac.za Internet Source	6%
2	hdl.handle.net Internet Source	1%
3	researchspace.ukzn.ac.za Internet Source	1%
4	repository.up.ac.za Internet Source	1%
5	uir.unisa.ac.za Internet Source	<1%
6	dspace.nwu.ac.za Internet Source	<1%
7	scholar.ufs.ac.za Internet Source	<1%
8	Submitted to Santa Monica College Student Paper	<1%
9	vital.seals.ac.za:8080 Internet Source	<1%