



# Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach

**B Taylor**



**[orcid.org/0000-0002-8600-8593](https://orcid.org/0000-0002-8600-8593)**

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Promoter: Dr M Neethling

Co-promoter: Dr S Esterhuizen

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## **DECLARATION**

I hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

## **DEDICATION**

I would like to acknowledge my gratitude to the following people:

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**“I can do all this through him who gives me strength” – Philippians 4:13**

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## **ABSTRACT**

This study was a journey of personal and professional learning through a participatory action learning and action research process between community and university co-researchers who formed an action learning group to successfully reach the objective of this study. The co-researchers collaboratively created practical guiding activities, compiled as an educational intervention, to support and equip practitioners in under-resourced early childhood care and education centres in informal settlements. The educational intervention was developed to be used as guidelines by early childhood care and education practitioners to stimulate the motor development of babies in their care.

The research project was embedded in a critical, transformative paradigm within the cultural-historical activity theory, following a participatory action learning and action research design to generate and analyse data through a qualitative approach. The data generation involved Zoom meetings, online questionnaires, WhatsApp, document analysis, informative discussions, and collaborative reflective journals. Three cycles of planning, acting, observing, reflecting, and creating unfolded in this research process. In the first cycle, the members of the action learning group explored their current knowledge of and skills in the motor development of babies in under-resourced early childhood care and education centres in informal settlements. In the second cycle, the action learning group explored the challenges experienced in early childhood care and education centres in promoting motor development in the view of the co-researchers. In the third cycle, the action learning group had the opportunity to explore what guidelines could collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced early childhood care and education centres in informal settlements. A scholarship of teaching and learning developed in the action learning group as we were transformed by participating collaboratively and gaining knowledge and skills in the process of reaching the mutual goal of the study.

The biggest challenge of this study was the global pandemic called the “2019 Coronavirus disease” or COVID-19, which was declared a national disaster in South Africa on 26 March 2020. The COVID-19 regulations stipulated that all schools, centres, businesses, and so forth should be closed, and for a long time, we could not enter early childhood care and education centres and no face-to-face contact was allowed. Therefore, the data generation strategies had to be adapted while keeping the principles of participatory action learning and action research in mind to ensure the success of this study. During the global pandemic, we, as an action learning group, managed to successfully develop an educational intervention to support practitioners of under-resourced

early childhood care and education playrooms in informal settlements to promote the motor development of babies.

**Key terms:** babies, early childhood care and education, informal settlements, motor development, participatory action learning and action research, under-resourced centres.

## OPSOMMING

Hierdie studie was 'n reis van persoonlike en professionele leer deur 'n proses van deelnemende aksieleer en aksienavorsing van gemeenskaps- en universiteitmedenavorsers wat 'n aksieleergroep gevorm het om die doelwit van hierdie studie suksesvol te bereik. Die medenavorsers het deur middel van samewerking praktiese begeleidingsaktiwiteite – saamgestel as 'n opvoedkundige intervensie – geskep om praktisyns in vroeëkindersorg- en opvoedingsentrums met gebrekkige hulpbronne in informele nedersettings te ondersteun en toe te rus. Die opvoedkundige intervensie is ontwikkel as riglyne vir gebruik deur vroeëkindersorg- en opvoedingspraktisyns om die motoriese ontwikkeling van babas in hul sorg te stimuleer.

Die navorsingsprojek is in 'n kritiese, transformerende paradigma binne die kultuurhistoriese aktiwiteitsteorie ingebed, in navolging van 'n deelnemende aksieleer- en aksienavorsingsontwerp, om data deur middel van 'n kwalitatiewe benadering te genereer en te ontleed. Die datagenerering het Zoom-vergaderings, aanlyn vraelyste, WhatsApp, dokumentontleding, insiggewende besprekings en samewerkende, besinnende joernale behels. Drie beplanningsiklusse – aksie, waarneming, besinning en skeppende aktiwiteit – het in hierdie navorsingsproses ontvou. In die eerste siklus het die lede van die aksieleergroep hul bestaande kennis en vaardighede wat betref die motoriese ontwikkeling van babas in sentrums vir vroeë kindersorg en opvoeding met gebrekkige hulpbronne in informele nedersettings ondersoek. In die tweede siklus het die aksieleergroep die uitdagings rakende die bevordering van motoriese ontwikkeling wat in sentrums vir vroeë kindersorg en opvoeding ervaar word vanuit die oogpunt van die medenavorsers ondersoek. In die derde siklus het die aksieleergroep die geleentheid gehad om te verken watter riglyne saam ontwikkel kan word om praktisyns toe te rus met kennis van en vaardighede betreffende die motoriese ontwikkeling van babas, vanaf geboorte tot en met 18 maande, in sentrums vir vroeë kindersorg en opvoeding in informele nedersettings met gebrekkige hulpbronne. Kundigheid rakende onderrig en leer het in die aksieleergroep ontwikkel namate ons deur gesamentlike deelname en kennis en vaardighede opgedoen, getransformeer is om die gemeenskaplike doelwit van die studie te bereik.

Die grootste uitdaging van hierdie studie was die wêreldwye Covid-19-pandemie, wat op 26 Maart 2020 as 'n nasionale ramp in Suid-Afrika verklaar is. Die Covid-19-regulasies het bepaal dat alle skole, sentrums, besighede, ensovoorts gesluit moet word. Gevolglik kon ons vir 'n lang tyd nie die sentrums vir vroeë kindersorg en opvoeding besoek nie en geen persoonlike kontak is toegelaat nie. Daarom moes die datagenereringstrategieë aangepas word, terwyl die beginsels van deelnemende aksieleer en aksienavorsing in gedagte gehou is om die sukses van hierdie studie te verseker. Tydens die wêreldwye pandemie het ons, as 'n aksieleergroep, wel daarin

geslaag om suksesvol 'n opvoedkundige intervensie te ontwikkel om praktisyns van sentrums vir vroeë kindersorg en opvoeding met gebrekkige hulpbronne in informele nedersettings te ondersteun om die motoriese ontwikkeling van babas te bevorder.

**Sleutelterm:** babas, deelnemende aksieleer en aksienavorsing, informele nedersettings, motoriese ontwikkeling, sentrums met gebrekkige hulpbronne, vroeë kindersorg en opvoeding.

## LIST OF ABBREVIATIONS

ALG	Action Learning Group
CHAT	Cultural-Historical Activity Theory
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoH	Department of Health
DSD	Department of Social Development
ECCE	Early Childhood Education and Care
ECD	Early Childhood Development
ECDCE	Early Childhood Development, Care, and Education
ECDE	Early Childhood Development and Education
ECE	early childhood education
EDTP-SETA	Education, Training, and Development Practices Sector – Education and Training Authority
EI	Educational Intervention
EU	European Union
MRQECCE	Policy on Minimum Requirements for Programmes Leading to Qualifications in Higher Education for Early Childhood Development Educators
NCF	National Curriculum Framework
NELDS	National Early Learning Development Standards
NGO	Non-Governmental Organisation
NPO	Non-Profit Organisation
NQF	National Qualification Framework

OECD	Organisation for Economic Cooperation and Development
PALAR	Participatory Action Learning and Action Research
PIECCE	Project for Inclusive Early Childhood Care and Education
PIRLS	International Reading Literacy Study
SAQA	South African Qualifications Authority
SETA	Sector Education and Training Authority
Unesco	United Nations Educational, Scientific, and Cultural Organisation
Unicef	United Nations Children's Fund
WHO	World Health Organisation

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# CHAPTER 1 INTRODUCTION AND BACKGROUND

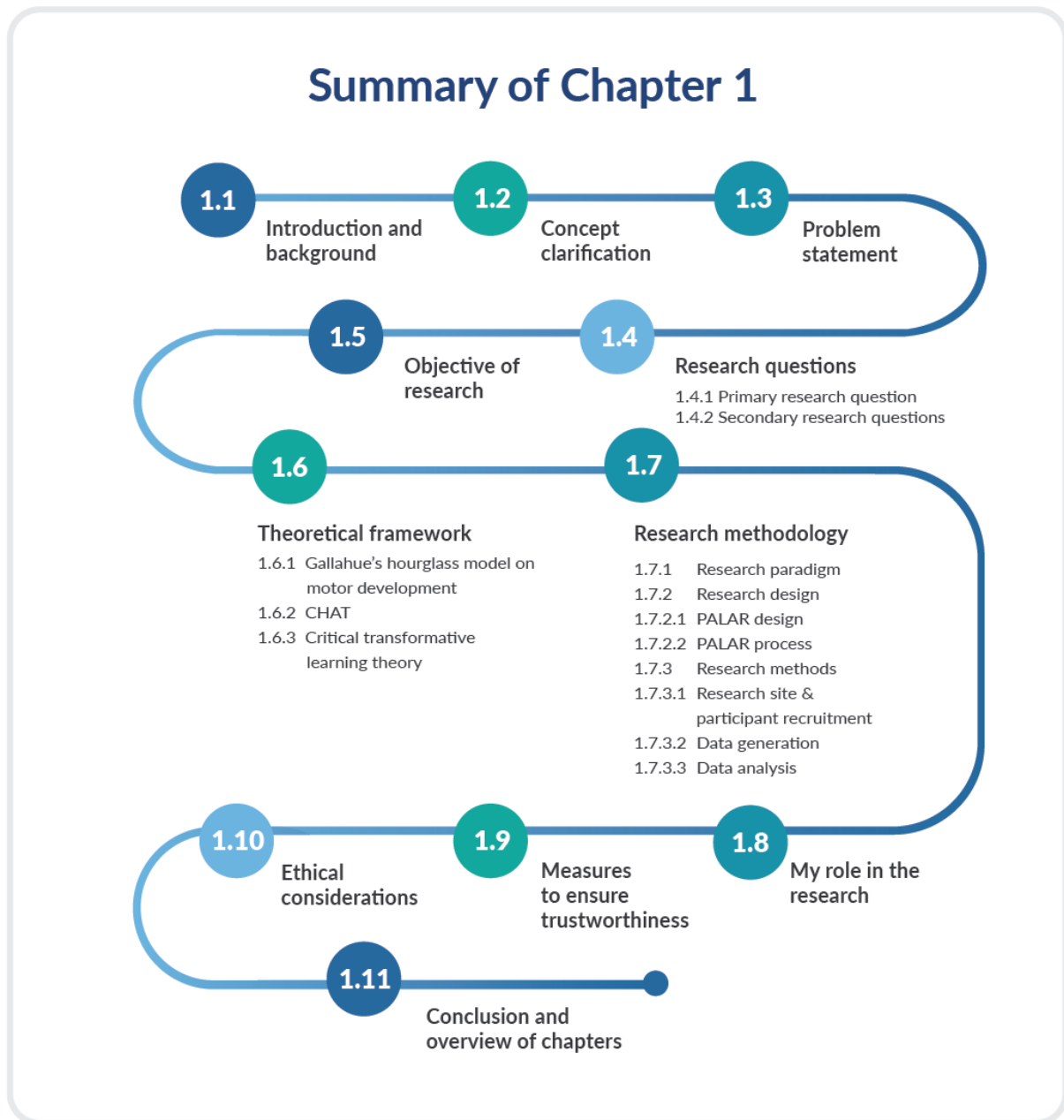


Figure 1-1: Chapter summary.

## 1.1 Introduction and background

In South Africa, the increasing diversity means that ECCE<sup>1</sup> is a complex field of intervention. (Ebrahim et al., 2018, p. 9)

The South African Department of Education (2001, p. 9) refers to early childhood development (ECD) as an “umbrella term that includes the holistic growth and development of children from birth to nine years old (0-9 years)”. The *Children’s Act* 38 of 2005 supports the use of this umbrella term and conceptualises ECD as the process by which children from birth to nine years of age grow and thrive holistically. Holistic development includes developing and growing physically, cognitively, emotionally, and socially (Bakken et al., 2017; Brodie, 2018; Excell & Linington, 2020; Koen et al., 2021; Louw & Louw, 2019).

Globally, motor development is regarded as a component of a child’s physical development that lays the foundation for holistic development. Therefore, it is important to stimulate motor development from birth because babies learn by using their senses, and by moving their bodies (motor development), they explore their surroundings and learn more about what their own bodies can do (Brodie, 2018; Clark & Metcalfe, 2002; Gallahue et al., 2011; Haywood & Getchell, 2020; Hestbaek et al., 2017) (see Section 3.3). Motor development should be stimulated to ensure that the foundations for lifelong learning and development are laid as early as possible (Brodie, 2018; De Jager, 2017; Gallahue et al., 2011; Goodway et al., 2021; Gonzalez et al., 2019).

The importance of motor development of babies, toddlers, and young children is underpinned by Gallahue’s (1998) hourglass model (see Sections 1.6.1, 3.4), which explains that motor development is the foundation of human development and is influenced by the environment and the learning task at hand (Gallahue et al., 2011; Goodway et al., 2021). Different stages of motor development are identified in Gallahue’s hourglass model of motor development (Haywood & Getchell, 2020). However, for the purpose of this study, I only focus on the reflexive movement phase and the rudimentary (see Section 3.4.1) movement phase in the educational context. The reason for this is that these are the stages of motor development concerning babies from zero to 18 months, which are the focus of this study and are further discussed in Chapter 3 (see Sections 3.3, 3.4).

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<sup>1</sup> ECCE includes babies, toddlers, and young children (0-4 years)

“Motor development” is a broad term used when referring to the growth and development of muscles and movement ability while using different body parts (Haywood & Getchell, 2020). Motor development comprises two types of motor skills, namely gross and fine motor skills (Haywood & Getchell, 2020). It is important to understand that gross motor development takes place before fine motor development (De Jager, 2017; Gallahue et al., 2011; Haywood & Getchell, 2020). In general, babies develop from the centre of the body outward and from top to bottom; for example, they learn to control their head and neck before they learn to control their arms, which happens before they are able to manipulate their fingers (Brodie, 2018; De Jager, 2017; Gallahue et al., 2011; Gonzalez et al., 2019; Goodway et al., 2021).

Motor development starts in the womb with reflexes that later have an impact on the child’s stability, locomotor, and manipulation movements, including gross motor skills such as sitting, standing, and walking (Chamley, 2005; Goodway et al., 2021; Witkowska, 2021) (see Section 3.3.1). Therefore, it is important to stimulate babies’ motor skills because developing big muscles in the body and acquiring gross motor skills, such as crawling, sitting, climbing, and running, along with developing the small muscles and acquiring fine motor skills, such as grasping, feeling, cutting, and tearing, prepare children not only to learn to read and write but also for lifelong learning and problem solving in all developmental areas, including physical, social, cognitive, and emotional development (Brodie, 2018; Essa, 2014; Excell, 2020; Haywood & Getchell, 2020; Louw & Louw, 2019; Paul & Singh, 2020; United Nations Children’s Fund [Unicef], 2022).

Researchers have found that if developmental area skills are missed in the early years, it can create challenges for later learning, and therefore, the early years are seen as a crucial time frame for the holistic development of young children (Excell, 2020; Gallahue et al., 2011; Goodway et al., 2021; Hestbaek et al., 2017; Koen et al., 2021). As children are regarded as holistic beings in current educational systems globally, the culture and context (environment) in which children live and play form a crucial part of their holistic development, which includes motor development. The culture and the context of a child influence what the child is exposed to and have a positive or negative impact on the development of the child (Bakken et al., 2017; Woolfolk & Perry, 2012).

Children are born eager to learn; therefore, the adult in the child’s micro-environment, in this study the practitioner, plays a critical role in offering opportunities for learning to take place. A child will thrive in a positive learning environment where opportunities are created to stimulate development, but lasting developmental delays can become a reality in a negative learning environment that does not offer opportunities for stimulating development (Harrison, 2020; Williams & Mann, 2011). Williams and Mann (2011) refer to a research report compiled in a

deprived socio-economic environment which found that children in these learning environments struggled to reach the holistic, age-appropriate developmental milestones. Furthermore, the findings of this report indicate that, in general, practitioner and parental knowledge and training are lacking in deprived socio-economic contexts where the importance of creating a stimulating learning environment and holistically stimulating children are neither recognised nor understood (Harrison, 2020).

In an attempt to support those who want to provide children with the best possible start in life, especially in deprived socio-economical contexts in South Africa, the Department of Basic Education (DBE) developed and published a curriculum-related policy in 2009. This policy is called the *National Early Learning Development Standards* (NELDS) and provides basic guidelines to initiate and promote early learning to stimulate the holistic development of children aged zero to four years (DBE, 2009). The importance of stimulating and holistically developing young children (birth - 9 years), is clearly stated in the *Guidelines for Early Childhood Development Services in South Africa* (Department of Social Development [DSD], 2007). The NELDS (DBE, 2009) identifies three age categories for early childhood care and education (ECCE) (0-4 years), which are babies (0-18 months), toddlers (18-36 months), and young children (3-4 years, including 5-year-olds).

In 2015, the DBE, together with Unicef, published *The South African National Curriculum Framework for Children from Birth to Four* (NCF), which was based on the NELDS guidelines and aimed to improve basic education by ensuring a well-grounded foundation in the early years (DBE, 2015). These documents provide guidelines to adults working with children from birth to four years old in diverse ECCE settings to improve children's learning experiences. Hence, these documents should be used to support training in the ECCE field performed by training organisations, including higher education institutions, non-government organisations (NGOs), non-profit organisations (NPOs), caregivers, practitioners, and different role players who develop programmes within the field of ECCE to enhance learning and development in the early years (DBE, 2009).

The *National Integrated Early Childhood Development Policy* (DSD, 2015), also accepted and published by the South African government in 2015, stipulates the importance of early childhood development to ensure an inclusive, supportive, and secure environment for the development of all babies, toddlers, and young children in the diverse contexts of South Africa. After many years of research, consultations, and policy declarations globally, early childhood is recognised by the government, and reducing poverty and inequality is part of a national goal. This national goal is referred to as "Sustainable Development Goal 4.2" and aims to

ensure access to early childhood development and care and pre-primary education and promote lifelong learning opportunities for all (DSD, 2015).

The NCF drew from and was shaped by specific key elements (DBE, 2015) that are also in line with the *National Integrated Early Childhood Development Policy* and Sustainable Development Goal 4.2 as mentioned above. These key elements are South African legislation and policies, the South African context, equity, diversity and indigenous and local resources from Africa, lifelong learning, reflective practitioners, family inclusion, and transitions.

*South African legislation and policies* advocate the importance of a child's role in education and development. The *South African context* has priorities, resources, and opportunities for young children's holistic development. Transforming South African society through ECD means paying attention to *equity, diversity, and indigenous African experiences* that are closer to the lives of children in South Africa. It is important to lay strong foundations in early childhood for *lifelong learning*. Complexities in children's development and learning require practitioners to reflect (*reflective practitioners*) in and on their practice with and for children. *Families*, in their many forms, are the primary educators of their children and must be *included* in ECD programmes. All levels of *transitions* (activity to activity, home to programme, one programme to another, ECD centre to school) need to be considered in children's learning and development. For this reason, it was decided to use the NCF and NELDS documents as guidelines to develop the educational intervention (EI) for this study.

From the above, it is evident that the South African government recognises the importance of improving the ECCE sector, with multi-disciplinary policies that have been developed. However, the rolling out and implementation of these policies have been found to be a great challenge in South Africa (Harrison, 2020). Deciding under which national department the ECCE sector should resonate and operate has been a point of discussion and negotiation in South Africa. For many years, it was unclear which department plays a role in which area, causing confusion within the ECCE sector. At first, the ECCE sector was accommodated under the DSD, and from 1 April 2022, the ECCE sector resonates under the guidance of the DBE.

A report compiled by Statistics South Africa (2017), based on a survey conducted in 2016, showed that 33% of South African children below the age of four were attending informal ECCE centres, that is, schools or day care where babies are attended to when parents need a care facility. In informal settlements, formal ECCE training of practitioners is not required or available. This suggests that there is a need for training the ECCE workforce and a need to

provide stimulating, affordable quality care and education for young children from birth to the age of four years.

In addition to the need for implementing policies and addressing the lack of training in the ECD workforce, various terms are used globally in the terminology of the field of ECD, which creates confusion. The different terms and policies are discussed in Chapter 2, but for the purpose of this study, the term “ECCE practitioner” refers to an individual who takes care of babies at an under-resourced ECCE centre in an informal settlement.

Since 2016, I have been engaged in a European Union (EU)-funded project called the “Project for Inclusive Early Childhood Care and Education” (PIECCE). This project was joined by higher education institutions funded by the Department of Higher Education and Training (DHET) to support the professionalisation of education for children from birth to four years old. The objective of the project was to collaboratively develop a standardised programme framework for ECCE qualifications at National Qualification Framework (NQF) Levels 6 and 7 to be used by universities to train the ECCE workforce in South Africa (Ebrahim & Phatudi, 2018; Harrison, 2020). In 2017, the DHET published the *Policy on Minimum Requirements for Programmes Leading to Qualifications in Higher Education for Early Childhood Development Educators* (MRQECCE) to professionalise ECD. This policy guided the development of the standardised programme framework for ECCE qualifications (birth - 4 years).

Reported findings of the PIECCE project indicated a lack of quality services in the ECCE sector and confirmed that there was a great need for quality training of practitioners, especially in South African informal settlements (Harrison, 2020). Ebrahim and Phatudi (2018) too emphasise the importance of trained practitioners caring for and educating children within the ECCE sector, because young children in South African ECCE settings come from diverse backgrounds and cultures and have different abilities and experiences. It is important for ECCE practitioners to be culturally sensitive, which refers to having knowledge, awareness, and acceptance of other cultures in one’s environment (Gradellini et al., 2021). Globally, young children are similar; hence, developmental expectations are recognised across cultures. These developmental expectations are captured in the NCF (DBE, 2015) and the NELDS (DBE, 2009) documents for the South African context (see Sections 2.7, 3.3.2, 6.1.4, 6.1.5).

From my own experience in the PIECCE project, the need for training practitioners looking after babies (0-18 months) stood out. I agree with the aforementioned researchers that practitioners, in general, do not receive training and are unqualified; therefore, only the basic needs of the babies in their care are met daily. Due to limited space and no resources within

some ECCE centres, babies are looked after in small rooms, which results in limited holistic developmental opportunities for them (Williams & Mann, 2011).

It is clear from the above that many challenges are faced in the ECCE sector. However, for the purpose of this study, we (the research facilitator and the co-researchers) aimed to collaboratively support and equip practitioners with knowledge and skills to promote the motor development of babies (0-18 months) in under-resourced ECCE centres in an informal settlement within the Kenneth Kaunda District in the North-West Province, South Africa (see Sections 1.3, 1.7.3.1, 5.1).

## **1.2 Concept clarification**

Important concepts related to this study are clarified in this section.

### **1.2.1 Baby**

According to the NELDS (DBE, 2009), babies are categorised as zero- to 18-month-old children.

### **1.2.2 Early childhood education and care centre (ECCE centre)**

When defining “early childhood education and care centres” (ECCE centres), we refer to any premises or building that is a non-residential facility where more than six babies, toddlers, or young children receive care and stimulation away from their parents according to a set programme implemented by ECCE practitioners (DSD, 2007). For this study, the term “ECCE centre” denotes any building, home or school where children aged zero to 18 months receive care and education.

### **1.2.3 Early childhood education and care practitioners (ECCE practitioners)**

The term “early childhood education and care practitioners” (ECCE practitioners) is used to refer to formally and informally trained individuals who provide care and education to babies, toddlers, and young children. These practitioners include educators, trainers, facilitators, lecturers, and caregivers working within ECCE centres (DSD, 2007). The DHET (2017) further defines a practitioner as a person who provides ECD services through ECD programmes and training, which include family services, childminders, and playgroups. For this study, I use the term “ECCE practitioners” to refer to all the abovementioned role players, but specifically people who take care of babies in ECCE centres.

#### **1.2.4 Educational intervention (EI)**

An educational intervention (EI) is defined as a strategy to enhance and apply learning in an educational setting. This includes equipping people with skills and knowledge in a specific field in a short space of time by improving performance in the workplace without completing a formal qualification (Gennerman, 2014; Wighus & Bjork, 2018). For this study, when the EI is mentioned, it refers to guidelines consisting of proposed stimulating activities guiding the motor development of babies in under-resourced ECCE centres compiled by the co-researchers of this study.

#### **1.2.5 Motor development**

Motor development refers to physical growth, the strengthening of bones and muscles, the ability to move around, and the ability to control one's own body, which continuously change throughout the life cycle of a human (Goodway et al., 2021; Haywood & Getchell, 2020). It also includes the increasing physical movements that humans acquire throughout their lifespan (Goodway et al., 2021; Haywood & Getchell, 2020). Motor development takes place through interaction between movement tasks, the biology of an individual, and the environment. Motor skills form the basis for other developmental skills throughout childhood (Formiga et al., 2015; Goodway et al., 2021; Haywood & Getchell, 2020). Motor development is divided into two types of motor development skills, namely gross and fine motor skills (see Sections 1.1, 3.3.1). Gross motor skills refer to the development of the large muscles that people use for crawling, sitting, standing, walking, and running, while fine motor skills refer to the development of the small muscles in the hands, wrist, and fingers that people use to grasp small objects, to write, and to fasten buttons, for example (De Jager, 2017; Goodway et al., 2021; Haywood & Getchell, 2020). Gross motor skills develop before fine motor skills as a baby learns by moving (see Sections 1.1, 3.3.1) (Goodway et al., 2021; Grow, 2020; Haywood & Getchell, 2020). This topic is discussed further in Chapter 3 (see Sections 3.3, 3.3.1).

#### **1.2.6 Participatory action learning and action research (PALAR)**

Zuber-Skerrit (2012) defines participatory action learning and action research (PALAR) as a learning and research design that follows a qualitative approach that is sustainable and takes place to identify and resolve practical problems in a teaching-learning situation. A teaching and learning situation can take place at any time, any place, and is not bound to a formal classroom situation (Wood, 2020). One of the main goals of PALAR is to create and refine knowledge through processes that involve people collaboratively reflecting and acting on their

actions and contributing towards a relationship between learning and development while promoting opportunities for learning (Joubert et al., 2016; Wells, 2011).

### **1.3 Problem statement**

While working as a member of the PIECCE national project (see Sections 1.1, 2.8), I had the opportunity to visit ECCE centres in various settings. Through conversations with practitioners at the ECCE centres, I realised that they were of the opinion that it was expected of them only to keep the babies safe and fed. Consequently, I came to realise that many practitioners working in ECCE centres in informal settlements, firstly, did not know about the importance of stimulating the motor development of babies and, secondly, did not have the knowledge and skills to do so. This is due to a lack of training and few opportunities for obtaining a formal qualification (see Sections 1.1, 2.9, 3.1, 7.4.2, 7.5, 8.1). With that in mind, this study focused on how practitioners working in under-resourced ECCE centres in informal settlements could be supported to gain knowledge and skills to be able to promote the motor development of babies. As a lecturer and researcher at a higher education institution in early childhood education (ECE), I became involved in an ethically approved project (see Section 5.12, 6.2), focusing on the holistic development of zero- to four-year-olds in ECCE centres in an informal settlement in the Kenneth Kaunda District (see Sections 1.1, 1.7.3.1, 5.1). The mentioned project became the baseline data for the current research study on motor development.

### **1.4 Research questions**

As described in the problem statement (see Section 1.3), practitioners lack the knowledge and skills to promote motor development in ECCE centres. This study aimed to answer the following research questions to address this problem at hand:

#### **1.4.1 Primary research question**

How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?

#### **1.4.2 Secondary research questions**

Cycle 1 (see Chapter 6): What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements about the motor development of babies aged zero to 18 months?

Cycle 2 (see Chapter 7): What are the challenges practitioners are confronted with in promoting the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?

Cycle 3 (see Chapter 8): What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?

## **1.5 Objective of research**

The objective of this study was to determine how a PALAR process, through a community-university partnership, could support and equip practitioners in under-resourced ECCE centres in an informal settlement to promote the motor development of babies, zero to 18 months old, by creating practical guiding activities with relevant proposed resources to stimulate the motor development of babies. To be able to reach the mentioned objectives, three ECCE practitioners and I, as the research facilitator, formed an action learning group (ALG) to work collaboratively as co-researchers to determine our understanding of the importance of motor development in child development at the time of the research. We identified and reflected on the challenges these practitioners experienced daily in under-resourced ECCE centres in an informal settlement that could possibly hamper the motor development of the babies.

The overall objective of this research project was to enable the co-researchers to collaboratively develop guidelines to support ECCE practitioners in informal settlements and under-resourced ECCE centres to promote the motor development of babies in the Kenneth Kaunda District in South Africa (see Sections 1.1, 1.3, 1.7.3.1, 5.1). During our research journey, the proposed activities created collaboratively were compiled within the format of an EI as guidelines to stimulate the motor development of babies. Through this process, we collaboratively determined the effectiveness of PALAR to develop strategies to maximise participation and equalise the power relations in a community-university partnership that is aimed towards achieving a shared vision, gaining insight into one another's lives, improving professional needs, and learning from one another (Wood, 2020).

The research process simultaneously provided an opportunity for the personal and professional development of the co-researchers to plan, act, reflect on and implement strategies to improve motor development in our working environment. In Chapter 3, an in-depth overview of the motor development of babies is provided, while in Chapter 4, I discuss the theories underpinning this study, and in Chapter 5, I elaborate on PALAR.

## 1.6 Theoretical framework

A theoretical framework consists of the layout of a distinct theory describing the design and frame of the study, as well as the literature connected to the topic and theory being explored (Merriam, 2001). The theoretical orientation of this study is action learning, which means that learning is supported in the task itself, taking place in the here and now, in a small group known as an “action learning group” or ALG (Revans, 1982; Zuber-Skerritt, 2011). The objective of this research was to determine how a PALAR design following a qualitative approach could support ECCE practitioners in under-resourced ECCE centres in an informal settlement to promote the motor development of babies aged zero to 18 months. To enable me to reach the objective, I drew on three core theories, namely Gallahue’s (1998) hourglass model of motor development, Engeström’s (2001) cultural-historical activity theory (CHAT), and Mezirow’s (1991) critical transformative learning theory.

Scientific research is the result of a theoretical perspective, and research questions must be theoretically informed. In this participatory research study, theory and research were interrelated, which refers to praxis. This is aligned with Glanz et al. (2015, p. 24), who state that “the best theory is informed by practice and the best practice should be grounded in theory”.

### 1.6.1 Gallahue’s hourglass model of motor development

Motor development is a continuous process of change in children’s movement according to their age and includes factors in the environment that may influence the process of change (Haywood & Getchell, 2020). Cooper and Harlow (2018) point out that the development of motor skills influences all other areas of development. Motor skills refer to actions involving babies using their muscles; these skills develop rapidly during the early years of development (Goodway et al., 2021) (see Sections 1.1, 1.2.5, 3.3, 3.4).

According to Gallahue’s (1998) hourglass model, there are four stages of motor development, namely the reflexive movement phase (birth - 12 months), the rudimentary movement phase (birth - 24 months), the fundamental movement phase (2-7 years), and the specialised movement phase (7-11 years) (see Section 3.4.1). As the focus of this study is on babies, the reflexive and rudimentary movement phases are relevant.

The **reflexive phase** is the phase in which information is encoded and decoded. Information encoding includes primitive reflexes, which are uncontrolled movements made by a baby and are also referred to as “survival reflexes”. Information decoding entails postural reflexes, which

are purposeful movements made because of stimulation (Gallahue et al., 2011; Haywood & Getchell, 2020).

The **rudimentary movement** phase includes purposeful controlled movements. These movements in the rudimentary phase are referred to as “stability movements”, “locomotor movements”, and “manipulation movements”. These all involve babies gaining control over their bodies from head to toe (stability movements). Sitting, crawling, creeping, standing, walking, reaching, grasping, releasing (locomotor movements), throwing, kicking, and catching objects (manipulation movement) are all milestones a baby will master in this phase (Gallahue et al., 2011; Haywood & Getchell, 2020). Gallahue’s hourglass model of motor development is discussed in detail in Chapter 3 (see Section 3.4). Another theory in which this study is embedded is CHAT, which is discussed next.

### **1.6.2 CHAT**

CHAT (cultural-historical activity theory) is a theoretical framework that leads to an understanding and analysis of the relationship between the human mind (how people think and feel) and activity (what people do). This theory enables researchers to evaluate complex and developing professional practices and motivates practitioners to engage in reflective research (Foot, 2014). CHAT examines relationships between people, tools, and goals as they are changed and shaped by social structures, culture, and history within the context of a community.

As subjects, people follow an object, and their identities (who they are) and current knowledge are shaped and transformed through their interaction with the other components in the activity system. Tools can be internal or external and include self-motivation, reflection, and external materials. When a person or subject, in this research the co-researchers, chooses a tool (in this research the ALG generating data during three cycles by means of collaborative reflection, informative discussions, document analysis, and the use of technology (see Section 5.7.2), the tool defines the way the subject carries out the action into the object. In this study, we aimed to collaboratively develop an EI (see Annexure I) that consists of knowledge, skills, and meaning to develop agency in practitioners on the motor development of babies in under-resourced ECCE centres.

Conflict and tension create change, which leads to learning and the creation of knowledge; therefore, CHAT (see Engeström, 2001) is applicable in this study, as the cultural part of the theory points to the culturally sensitive perspective of a child that needs to be addressed. This

resonates with Mezirow's (2000) transformative learning theory on how education brings change to a person's thinking, beliefs, and assumptions.

There are many constraints in young children's daily life that have an influence on their development (Harkness et al., 2013). The child's culture, as well as that of the practitioner, should always be considered and respected within the learning environment. The activity part of the theory in this study is aligned with the PALAR research design in which we, as co-researchers, actively reflected on and transformed and improved our knowledge about the motor development of babies in a specific socio-economic context. CHAT is discussed further in Chapter 4.

### **1.6.3 Critical transformative learning theory**

For several decades, Mezirow's (2000) theory on critical transformative learning has played a significant role in the literature about adult education (Hoggan, 2016; Mezirow, 2011). According to Dirkx (2012), critical transformative learning is not just about changes in what people know and how they do things, but is also seen as a shift in how they come to know and how they understand themselves. Dirkx (2012) further states that critical transformative learning means that a person can make or remake the meaning of something. This theory has led to discussions about the capacity of adult education to powerfully introduce change in people's lives, including the way in which changes occur in a person's own thinking, beliefs, and assumptions (Hoggan, 2016; Margot-Gattin et al., 2018; Wood, 2019), which resonates with CHAT principles and PALAR as the methodology of this study.

The critical transformative learning theory emerged from Mezirow's concern about what sort of personal or individual change is required to bring about social change (Rose, 2015; Wood, 2019). Hoggan (2016) declares that insightful learning at a personal level is required for substantial transformation to happen before social structures can be changed. The critical transformative learning theory focuses on critical thinking, reflection, and learning partnerships that are developed to enhance educator development within a specific context, which is underpinned by PALAR as an approach to collaboratively improve practitioner development (Margot-Gattin et al., 2018; Mezirow, 2011; Swanson, 2010; Zuber-Skerritt, 2011).

Reflecting collaboratively on creating stimulating activities brought along change and transformation for all the co-researchers in this study. ECCE practitioners, as adults, for example, need to learn how to negotiate changes originating from new situations in the playroom. They are also required to learn responses to the new demands made on them, and these include lifelong learning (Wood, 2020).

Critical transformative learning takes place when people reflect, interact, and take part in discussions (Herr & Anderson, 2015). PALAR informs Mezirow's (2000) theory on critical transformative learning, which leads to gaining an understanding of one's own experiences during reflection, as well as learning from other people when working collaboratively towards the same goal (Wood, 2020). This is also underpinned by Knowles' (1973, 1984) andragogy theory, which shows that adults learn differently than children and need to feel supported and motivated in the learning process. Critical transformative learning strives to make new meaning and sense of a phenomenon that is important to practitioners. In this study, the principles of the critical transformative learning theory were used through collaboration and reflection among the co-researchers, which included me, as the research facilitator, to support ECCE practitioners to improve the motor development of babies aged zero to 18 months.

The three theories discussed above demonstrate a strong connection in terms of the role of involvement in learning, which includes experience, critical reflection, critical thinking, and acting as basic processes of action research and action learning. The critical transformative learning theory highlights the essential role of personal transformation that should occur before changes can transpire in social structures (Hoggan, 2016; Wood, 2019); therefore, PALAR is relevant in this context.

## **1.7 Research methodology**

A methodology refers to the specific plan, process, or framework that a researcher will follow to investigate a research problem (Joubert et al., 2016). The research methodology can be used as a structure and indicate the theories, methods, and instruments on which the study is based. Within the research methodology, the research questions are determined, and it provides an explanation of the kind of study that was undertaken and the research methods that were involved, such as the data collection and data analysis tasks (Maree, 2019). My methodological paradigm for this study is PALAR, as I, the research facilitator, believe that useful and context-specific knowledge that will improve practice is better generated in an interactive process of action and reflection that is done in collaboration with practitioners, in accordance with Wood's (2020) explanation of PALAR.

### **1.7.1 Research paradigm**

A research paradigm includes specific assumptions through which specific research is directed and findings are interpreted (Nieuwenhuis, 2019). Zuber-Skerritt (2012) further explains that a paradigm is an assumption or belief about what reality entails and says that a paradigm represents an individual's world perspective and determines the way in which the

individual will handle events. Furthermore, a paradigm can be seen as a framework within which theories are built and which influences the way one sees the world and guides the way in which a researcher understands how things are connected (Aliyu et al., 2015). As several practitioners worked together as co-researchers in this study, the critical transformative paradigm was relevant. The paradigm made the co-researchers aware of the need to transform and empower us with knowledge and skills to take ownership of the motor development of the babies in their care. Together we gained knowledge and skills and created resources in an informal settlement within unique circumstances to promote and stimulate the motor development of babies.

Because of the specific assumptions of a paradigm related to a study, it is important to identify and understand the ontology, epistemology, and axiology (see Section 5.3) of a study, as they influence one’s choice of paradigm (Nguyen, 2019). The ontology, epistemology, and axiology of a study are explained in short in the form of questions.

**Table 1-1: What is ontology, epistemology, and axiology?**

<b>Ontology</b>	What are we researching? Why are we researching?
<b>Epistemology</b>	How do we know? How do we learn?
<b>Axiology</b>	What values should be considered? What ethical aspects should be considered?

The ontology of a study is guided by questions such as what one is researching and why it is being researched. In this study, a collaborative approach between us as co-researchers led us to a process of creating our own knowledge and skills in an informal settlement context.

Epistemology refers to questions on how one knows and learns to better understand how the field of research can be uplifted and strengthened by creating knowledge through lived experiences in a specific context.

The axiology investigates what values and ethical aspects should be considered in the research process and sets a balance between the ontology and the epistemology of the research. These assumptions are discussed further in Chapter 5 (see Section 5.3).

## **1.7.2 Research design**

A research design is the comprehensive strategies used in a study to be able to effectively address the research problem (Nieuwenhuis, 2019).

### **1.7.2.1 PALAR design**

Zuber-Skerritt (2015) refers to PALAR as an effective, collaborative, creative, innovative, and self-developed community engagement approach to research where the researcher “leads” from behind instead of from the “top down”, as the researcher works in collaboration with the participants or co-researchers as a partner, and not as an expert, to change and improve practice. In general, the intention is the enhancement of work practices by way of collaborative inquiry and learning with other individuals (McNiff & Whitehead, 2010; Zuber-Skerritt, 2015). For this reason, the PALAR research design is applicable as I, the research facilitator, inquired and learnt about practice collaboratively with the practitioners and vice versa.

### **1.7.2.2 PALAR process**

PALAR was employed as a collaborative process where iterating cycles of planning, action, and reflection by the relevant ECCE practitioners and myself (the facilitator), as co-researchers and equal participants in the research, were used as a basis for the development of an EI to equip ECCE practitioners in informal settlements and under-resourced ECCE centres with knowledge and skills to nurture and stimulate the motor development of babies (0-18 months). This aligns with Zuber-Skerritt’s (2018, p. 515) definition of PALAR as a constructive, innovative, creative way to solve problems and develop professionally and “research that integrates various concepts and processes, including lifelong learning, collaborative action learning, participatory action research, and action leadership”.

Wood (2020) explains the PALAR process by using an infinity sign (see Figure 5-2) moving through cycles of relationship and research that entail interactive cycles of reflection-in-action and reflection-on-action (McNiff & Whitehead, 2010; Wood, 2020; Zuber-Skerritt, 2015). Building relationships and working together towards a mutual goal lays the foundation for the PALAR process, as highlighted in the infinity sign created by Wood. Throughout this study, relationship building took place and the co-researchers supported and respected one another’s knowledge, skills, and perceptions that were brought to the ALG to be able to reach a mutual goal – creating the EI. In this study, actions happened interchangeably in every cycle. These actions included planning, acting, observing, reflecting, and creating support for the action of changing and development, which were followed by creating an EI. The three cycles that unfolded in this research are briefly explained next.

### 1.7.2.3 The cycles

The following is a short overview of the cycles that led us to the solution of the primary research question: *How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?* These cycles are discussed in depth in Chapters 6, 7, and 8.

#### 1.7.2.3.1 Cycle 1

In Cycle 1, we established the ALG and commenced relationship building. Collaboratively, we planned our working sessions, and dates and times were decided on together to suit the schedules of all the co-researchers. The research process further unfolded in continuous, iterative cycles of planning, acting, evaluating, and reflecting to address the first secondary research question: *What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements about the motor development of babies aged zero to 18 months?* This process included gathering baseline data from face-to-face informal discussions (adhering to COVID-19 regulations), Zoom meetings, and a recycling workshop. The data generation of Cycle 1 continued with observation in playrooms (adhering to strict COVID-19 Alert Level 1 regulations – no contact or interaction with babies), Zoom meetings, informal discussions, the completion of an online<sup>2</sup> questionnaire, WhatsApp, e-mail, and document analysis.

#### 1.7.2.3.2 Cycle 2

In Cycle 2, relationship building continued and the research process further unfolded in continuous, iterative cycles of planning, acting, reflecting, and identifying to address the second secondary research question: *What are the challenges practitioners are confronted with in promoting the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?* This process included Zoom meetings in Cycle 1, informative discussions in the ALG, and an online questionnaire to support this question.

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<sup>2</sup> The link to the online questionnaires is not made available here or in the annexure due to the *Protection of Personal Information Act 4 of 2013*. Furthermore, no information with names or personal information of any person is made available in this study in order to protect the co-researchers and the participating ECCE centres.

### 1.7.2.3.3 Cycle 3

Relationship building continued in Cycle 3, and the research process further unfolded in continuous, iterative cycles of planning, acting, reflecting, and creating activities that resulted in an EI to address the third research question: *What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?* This process included WhatsApp, the compilation of a collaborative journal, informal discussions, document analysis, and participant observation when demonstrating the practicality of motor development activities (without children).

During this cycle, guiding activities – using available resources and recycled materials – were created, evaluated, and refined based on the data generated in Cycles 1 and 2 and then compiled as an EI. The co-researchers also explored ways to ensure the sustainability of the intervention and the partnership and reflected on the process of working collaboratively to develop an EI for practitioners to improve the motor development of babies aged zero to 18 months in under-resourced playrooms in informal settlements. The reason for this is that the motor development of babies is of the utmost importance, as it forms the basis for the holistic development of children, as earlier discussed (see Sections 1.1, 1.2.5, 1.6.1, 3.2).

## 1.7.3 Research methods

Research methods refer to strategies that are employed to obtain data systematically (Thomas & Harden, 2008). The discussion of the research methods used in this study includes the site, participant selection, data collection techniques, and data analysis.

### 1.7.3.1 Research site and participant recruitment

The research sites were three under-resourced ECCE centres in an informal settlement with various playrooms accommodating babies, toddlers, and young children from the community. These sites are located in the Kenneth Kaunda District, North West, South Africa (see Sections 1.1, 1.3, 5.1) and resonate under an NGO that supports these centres. Independent NGOs support ECCE centres that care for and educate children up to the age of six years in the abovementioned informal settlement. Assistance from the independent NGOs includes the implementation of educational programmes (mostly for the 6-year-old group), administrative and financial management, and the upgrading of centres.

The participating practitioners, who acted as co-researchers in this study, look after babies at the abovementioned sites, which include playrooms for babies aged zero to 18 months old. The recruitment of the co-researchers is discussed next.

Marquardt (1999) advises that an ALG consists of four to eight members. In this study, I initially recruited seven practitioners who cared for babies to have a representative voice according to the following criteria:

- Practitioners with at least two years of work experience in an ECCE setting.
- Practitioners who can speak, write, and read Setswana or English.
- Practitioners who are available for the duration of the study.
- Practitioners who are enthusiastic and show interest in being involved in the study.

The co-researchers were recruited through a gatekeeper of the independent NGO. The gatekeeper acts as communication person between the researcher and the co-researchers to ensure voluntary participation. The gatekeeper has the power to grant or withhold access to people or situations during research. As the study evolved with COVID-19 as a major challenge, we were four participants, working collaboratively as co-researchers, at three centres who took part for the entire duration of the study. It was not possible to include the other five participants throughout the process due to strict lockdown regulations (DBE, 2020) adhered to within the centres.

The co-researchers gathered and managed data during each cycle to develop the EI and to present, evaluate, and refine the intervention according to best practices. Because of the relationships among the co-researchers, we were introduced to different social contexts and respected one another's worldviews and values, which were of great value within the PALAR process that rotates between action and critical reflection (Zuber-Skerritt & Wood, 2019). This aligns with Mezirow's (2000) theory of critical transformative learning. Zuber-Skerritt and Wood (2019) emphasise that in PALAR, the focus is on participation and collaboration. In line with the above point, the researcher was not regarded as an outside expert who was there to investigate and conduct research, but rather as a co-researcher doing research with and for people concerned with the practical problems under investigation (see Zuber-Skerritt & Wood, 2019).

### **1.7.3.2 Data generation**

Data generation refers to the methods researchers use to enable them to answer their research questions (Joubert et al., 2016). Due to the COVID-19 pandemic, we were not able to meet face to face (see WHO, 2020) for all the discussions and reflections and had to rethink

the data generation methods and find alternative ways of creating this EI. Only when South Africa was placed on Alert Level 1, we were able to meet at the centres and work together on planning, acting, reflecting, and creating the activities that were compiled as an EI. These meetings were held under strict COVID-19 protocol regulations.

According to Cohen et al. (2018), it is essential that the co-researchers of a study are actively involved in the data collection and analysis to ensure that the necessary assumptions and theories can be obtained from the data. This gives the co-researchers the opportunity to gain a deeper understanding of the dynamics of the research problem at hand (Nieuwenhuis, 2019). The co-researchers were actively involved in this study by keeping a collaborative reflective journal throughout the observations and reflecting on what we all were doing, then taking action, reflecting again, and taking action to improve the situation. Recorded informative discussions in the ALG, guided by open-ended questions compiled by each co-researcher, were directed to one another during the meetings and open for discussion. As the research facilitator, I transcribed these discussions for the purposes of data analysis and for reflective purposes by the action learning set. The transcriptions of informative discussions are one of the main sources of data generation in the PALAR design, as rich data could be gathered by transcribing the audio discussions that captured the voices and opinions of the ALG within their own context (see Wood & Zuber-Skerrit, 2013).

We utilised the following data generation methods: Zoom meetings, online questionnaires, WhatsApp (messages and calls), document analysis, informative discussions in the ALG, collaborative reflective journals, participant observation when demonstrating motor development activities (without children), and transcriptions of recorded sessions of the ALG meetings. This worked well, and we managed to maintain relationship building throughout the pandemic. These methods are further described and elaborated on in Chapter 4.

### **1.7.3.3 Data analysis**

It is important to mention that I, as the research facilitator, had to explain to the practitioners, as co-researchers, how to go about analysing data. We followed specific steps to analyse the data, because different interpretations are possible when different data-generating strategies are used during the various stages of the research (Creswell & Creswell, 2018). The steps we followed were:

- organise and prepare the data for analysis through coding;
- read or look at the activities created as data themes or categories;
- code the data by analysing the connections between them;

- generate a description and themes; this will follow in pattern coding – same patterns are identified, write down themes, and see how patterns develop; and
- represent the description and themes and simultaneously code multiple codes of the same concepts.

In this research, pattern coding was used effectively, as we all sat together and divided the data into themes according to the secondary research questions. The main themes were, firstly, the current knowledge of the co-researchers as ECCE practitioners about the motor development of babies aged zero to 18 months attending under-resourced ECCE centres in informal settlements. The second theme was the challenges the practitioners were confronted with in promoting the motor development of babies aged zero to 18 months. This was followed by guidelines that could be put in place to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months, with the context of ECCE centres in mind.

### 1.8 My role in the research

Although I was a co-researcher in the ALG, I also acted as the research facilitator to structure the research project. Collaboratively, we agreed that I would act as the nodal point to which all data and reflections must be sent, where transcription must be done, where dates for following meetings that suited all involved should be set, and where the co-researchers would be supported with the use of technology and guided in the PALAR process.

### 1.9 Measures to ensure trustworthiness

The integrity of the study was addressed by integrating the five quality indicators for action research (Anderson et al., 2007). Herr and Anderson (2015) assert that participatory research requires a unique system before the integrity or quality of the study can be determined. This unique system is based on five validity criteria, linked to the goals of action research on which this study was drawn. The five validity criteria are as follows (Herr & Anderson, 2015) (see Section 5.11):

- **Outcome validity** refers to the degree to which the action of an action research project results in finding a possible answer to the research problem.
- **Process validity** determines the outcome of the research process; therefore, the research process must be in place and well planned.
- **Democratic validity** adheres to the 3Rs and 7Cs (see Section 5.4.5) of PALAR, where, in this research, the planned intervention was based on democratic principles where all co-researchers acted equally.

- **Catalytic validity** refers to the research process functioning as motivation for co-researchers to be enthusiastic to understand the reality (in this case, their own knowledge about motor development and the application thereof would change).
- **Dialogic validity** is linked with democratic principles of dialogue between co-researchers – all the co-researchers had a voice that we listened to, and we respected one another’s opinion.

These criteria are discussed in more detail in Chapter 5 (see Section 5.11).

### **1.10 Ethical considerations**

Townsend (2013) points out that all research, regardless of form or emphasis, should be conducted in an ethical manner. Therefore, it was my responsibility as a researcher to ensure that my research conformed to ethical standards. Ethics clearance was obtained from the Ethics Committee of the Faculty of Education Sciences with ethics number NWU-01207-20-A2 (see Annexure A). This clearance is not granted unless the committee is satisfied that all ethical requirements have been met.

Permission was obtained from the co-researchers who were part of the ALG (see Annexure C). Furthermore, permission was obtained from the DBE from the relevant Department in the Kenneth Kaunda District (see Annexure B). The nature of the research study, the degree of engagement by the co-researchers, and the duration of my study were accurately and honestly disclosed. I ensured that the co-researchers were given adequate information to decide to take part voluntarily. They were also assured that they could withdraw from the study at any time.

I was concerned about protecting the rights and privacy of the co-researchers and, therefore, an informed consent form was signed by the practitioner co-researchers (see Sotuku & Duku, 2015). Throughout the study, the dignity of the co-researchers as human beings was respected (see Cohen et al., 2011; Sotuku & Duku, 2015). According to the principle of beneficence, the research study was conducted so that individuals, as well as groups of individuals, would benefit by obtaining knowledge about their own learning and development, the teaching process, and other professionals and learner participants (Sotuku & Duku, 2015).

### **1.11 Conclusion and overview of chapters**

In this study, the participants as co-researchers (ECCE practitioners, including me as the researcher facilitator) learnt, supported, and motivated one another to improve the motor development of babies (0-18 months old) in informal settlements and under-resourced ECCE

centres. The discussions among the co-researchers were enriched by sharing knowledge and skills gained from past experiences and collaboratively reflecting on how to improve their own knowledge and skills (Elliot & Campbell, 2015; Margot-Gattin et al., 2018; Mezirow, 2011; Swanson, 2010; Zuber-Skerritt, 2011).

In this chapter, I gave a background on how ECCE (babies aged 0-4 years) is structured in the umbrella term “early childhood development” (0-9), with emphasis on the NELDS and the NCF (see Sections 2.7, 3.3.2, 6.1.4, 6.1.5) as the guidelines for ECCE in South Africa. Concepts were clarified to better understand the context of this study. Furthermore, an overview of PALAR, as the research approach, was given, followed by a discussion of the guiding research questions, the objective of the study, and the theoretical framework. The three theories that I regarded as the most suitable for this study – Gallahue’s (1998) hourglass model, CHAT, and Mezirow’s (2000) theory on critical transformative learning underpinning the research – were briefly explained. Thereafter, the research methodology, research methods, my role in the research, measures to ensure trustworthiness and ethical considerations were discussed.

Table 1-2 below gives a broad overview of what is discussed in the remainder of this thesis.

**Table 1-2: Overview of chapters.**

<b>Chapter</b>	<b>Discussion</b>
<b>Chapter 1</b>	Introduction and background to the study, with important concepts used throughout the study explained. The problem statement, research questions, and objective of the study were discussed. The theoretical frameworks relevant to this study were discussed in short, as well as the research methodology, research design, research process, and data generation methods. Lastly, the role of the researcher, trustworthiness, and ethical considerations were discussed as well.
<b>Chapter 2</b>	Early childhood development, care, and education, as well as different terminologies globally, are discussed. Also discussed are the relevant policies and training for ECCE practitioners in the South African context.
<b>Chapter 3</b>	Motor development and Gallahue’s (1998) hourglass model of motor development are discussed in Chapter 3.
<b>Chapter 4</b>	The critical transformative learning theory and CHAT as theoretical frameworks for this study are discussed.
<b>Chapter 5</b>	The research questions, objective of the research, research design, data generation, and data analysis methods are discussed.
<b>Chapter 6</b>	In this chapter, Cycle 1 is discussed.
<b>Chapter 7</b>	Cycle 2 is discussed in Chapter 7.

<b>Chapter</b>	<b>Discussion</b>
<b>Chapter 8</b>	Cycle 3 is discussed in this chapter.
<b>Chapter 9</b>	A summary of the study is provided in the final chapter.

## CHAPTER 2 EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN SOUTH AFRICA

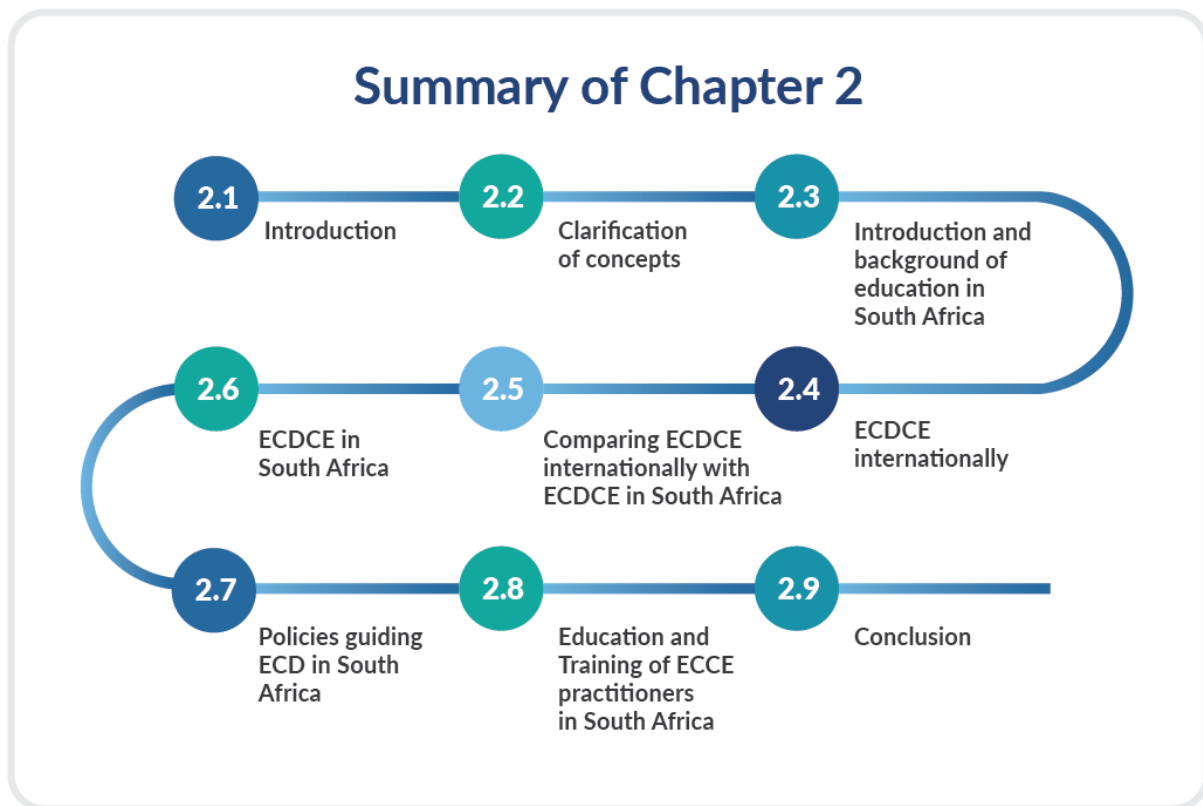
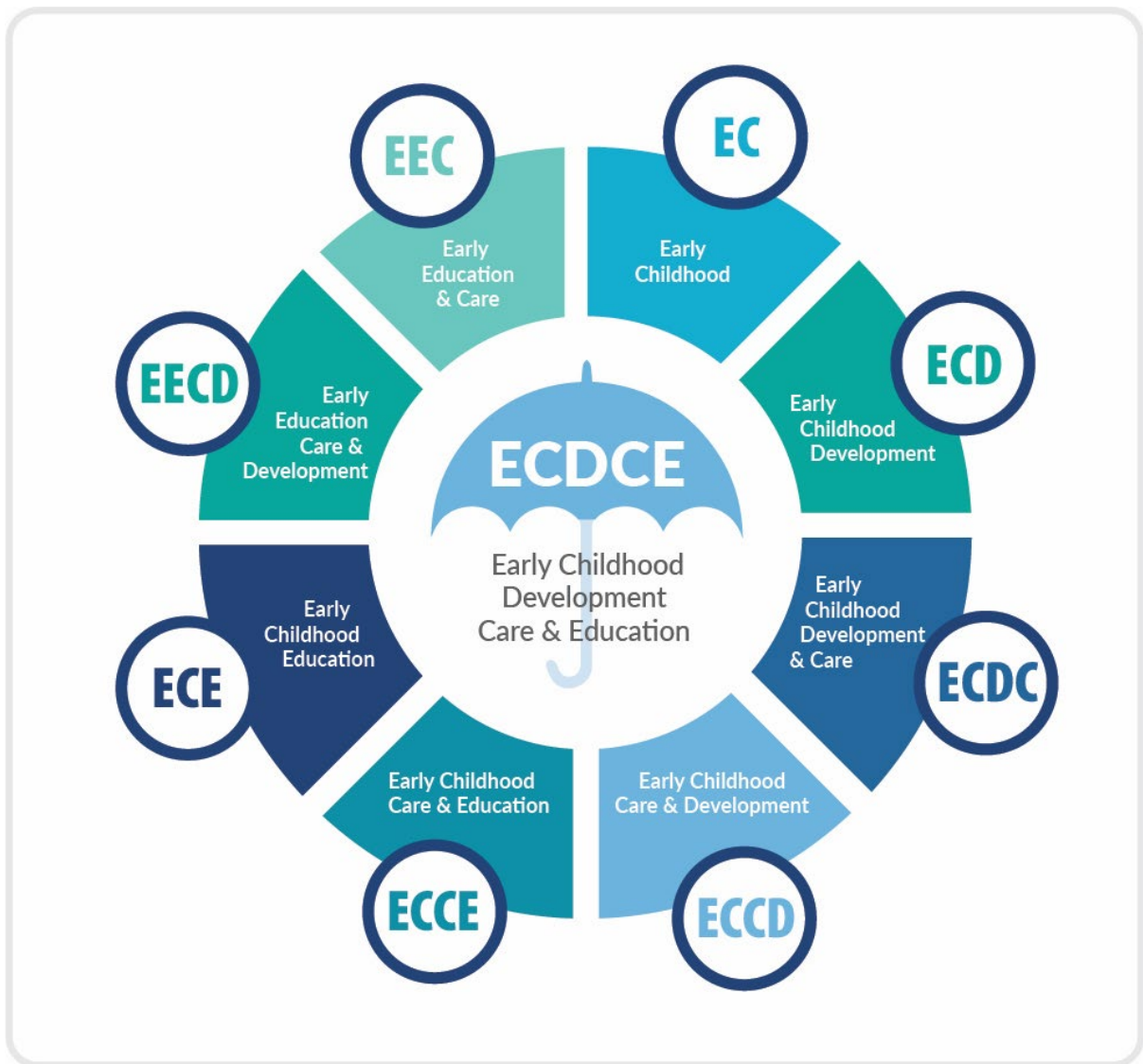


Figure 2-1: Chapter summary.

### 2.1 Introduction

In South Africa, ECD is a broad process of programmes and policies in an attempt to protect the rights of all children from birth to the age of nine. The DBE aims to develop children as a whole (holistically) and give access to early education to all young children through programme and policy implementation (DBE, 2022).

In this chapter, I give a background of the education system in South Africa where I look at early childhood development, care, and education (ECDCE) internationally, as well as nationally. I also discuss ECD policies and the education and training of practitioners in South Africa. A summary of Chapter 2 is depicted in Figure 2-1. First, I look at different terms used globally to better understand and explain the ECCE discussions in this study. Figure 2-2 summarises the terminology with specific abbreviations, and the concepts are explained below in Section 2.2.



**Figure 2-2: Early childhood terminology used globally (adapted from Taylor et al., 2020).**

The figure above that provides a summary of the acronyms used globally in early childhood was adapted from Taylor et al. (2020).

## **2.2 Concept clarification**

Specific concepts are discussed next in an attempt to prevent uncertainty about terms regularly used in this study. These concepts are also applied to better understand the different concepts used globally.

### **2.2.1 Early childhood care and education (ECCE)**

The term “early childhood care and education” (ECCE) refers to the early learning and development of babies, toddlers, and young children (DHET, 2017). Unesco (2019) defines ECCE as the developmental years, before primary school, that form a child holistically between birth and the age of eight. For this study, the term “ECCE” refers to the care and education of babies, toddlers, and young children between birth and age four years.

### **2.2.2 Early childhood development (ECD)**

Early childhood development (ECD) is defined as a child growing holistically. This includes the physical, social, emotional, and cognitive growth of babies, toddlers, and young children. The DBE (2001, p. 9) likewise refers to “ECD” as an umbrella term that includes the holistic growth of children from birth to age nine.

### **2.2.3 Early childhood development, care, and education (ECDCE)**

For the purpose of this study, “early childhood development, care, and education” (ECDCE) is a broad term that summarises all the components within ECD (0-9 years), specifically with reference to ECCE (0-4 years). ECDCE not only focus on the development of young children but also includes taking care of young children, ensuring their safety, and the development and implementation of programmes and government structures guiding ECD.

### **2.2.4 Early childhood education and care educators (ECCE educators)**

The DHET (2017) defines “early childhood education and care educators” (ECCE educators) as individuals who hold appropriate qualifications that enable them to deliver or support the delivery of structured ECE programmes for babies, toddlers, and young children effectively. These ECCE programmes are focused on stimulating early learning, including formal curricula such as the *National Curriculum Framework for Children from Birth to Four* (DBE, 2015). In this study, the term “ECCE practitioners” (see Section 1.2.3) is used because the term includes educators, trainers, facilitators, lecturers, and caregivers working within ECCE centres (DSD, 2007).

## **2.3 Introduction and background of education in South Africa**

Effective ECD has long been recognised as a major force for good in society through its positive effect on human social capital and mental health. (Westwood, 2012)

The history of education in South Africa currently manifests as a crisis, exemplified by the poor throughput of learners. In addition, it is evident from recent international studies that the South African education system is ranked among the world's most sub-standard systems (Spaull, 2017). In 2016, the International Reading Literacy Study (PIRLS) revealed that 27% of South African learners were still unable to read after six years of schooling (Spaull, 2017). Furthermore, it has been found that eight out of 10 South African school-going children struggle to read. An alarming 78% of South African Grade 4 learners cannot read for meaning, and these Grade 4 learners have scored the lowest mark for reading from all the countries<sup>3</sup> that participated in the study (Spaull, 2017). Moreover, PIRLS (Spaull, 2016) revealed that only 46% of Grade 1 learners in South Africa reach Grade 12 and South African learners scored the lowest in reading skills, tested in 50 countries (Nonjinge, 2018; Spaull, 2017).

It has also been found that roughly 20% of Grade 9, 10, and 11 learners are repeaters of these grades, suggesting that they were poorly prepared in the earlier grades of the school system, which suggests a lack of quality education due to various factors (Morris, 2018). Statistics South Africa (2014) shows that efforts from the government to improve access to schooling do have an impact, as the percentage of individuals with no schooling declined from 10,6% in 2002 to 5,3% in 2014. Furthermore, Statistics South Africa (2017) shows that, based on a survey conducted in 2015, 33% of South African children below the age of four attend some sort of day care, while 45,8% stay home with parents or guardians. This suggests that there is a need to provide stimulating, affordable quality care and education for the birth to age four group. This highlights the value of supporting and training practitioners working with children from birth to age four.

The same report compiled by Statistics South Africa (2017) further reflects that only 21% of children aged zero to two years attend an early learning group programme (Statistics South Africa, 2017). Only 9% of children aged zero to years are in the care of a day mother,

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<sup>3</sup> Participants in the PIRLS study: Argentina (Buenos Aires), Australia, Austria, Azerbaijan, Bahrain, Belgium (Flemish), Belgium (French), Bulgaria, Canada (with Ontario and Quebec as benchmarking systems), Chile, Chinese Taipei, Czech Republic, Denmark, England, Finland, France, Georgia, Germany, Hong Kong SAR, Hungary, Ireland, Iran, Israel, Italy, Kazakhstan, Kuwait, Latvia, Lithuania, Macao SAR, Malta, Morocco, Netherlands, New Zealand, Northern Ireland, Norway, Oman, Poland, Portugal, Qatar, Russian Federation (with Moscow City as benchmarking system), Saudi Arabia, Singapore, Slovak Republic, Slovenia, South Africa, Spain (with Andalusia and Madrid as benchmarking systems), Sweden, Trinidad and Tobago, United Arab Emirates (with Abu Dhabi and Dubai as benchmarking systems), and the United States of America (Spaull, 2017).

childminder, or *gogo* (Zulu<sup>4</sup> for grandmother, but can also refer to older women), while 70% are cared for at home by the mother or other family members (Statistics South Africa, 2017).

Several factors contribute to a large number of learners in South Africa not experiencing successful learning. Poor infrastructure and a lack of decent facilities in public schools run by the government are one of the reasons why the South African education system is regarded as one of the worst education systems in the world (Spaull, 2017). Targets set by the government to improve the infrastructure and facilities are not met, and overcrowded, unsafe classrooms have a negative impact on the education children receive. Furthermore, in poorer communities, children live far from schools, and a lack of transport keeps them from accessing education.

The government aims to resolve the problem outlined above through policy and programme development starting with the ECCE (age 0-4 years) group. In South Africa, formal schooling begins at age six, turning seven, but the large number of ill-prepared learners, owing to a lack of access to quality ECCE programmes is a matter of major concern (DSD, 2015). The lack of access to quality ECCE programmes has a domino effect that leads to costly remediation and various types of support needed by young learners, with learners likely to leave the schooling system before completing Grade 12, as mentioned earlier (Statistics South Africa, 2017).

Globally, research has found that children who are neglected in such inadequate developmental situations, either because of poverty, poor health, poor nutrition, or a lack of early stimulation and development, will be negatively affected, resulting in cognitive, social, and behavioural delays with lifelong consequences. These disadvantaged children are likely to eventually perform poorly in school and may, subsequently, have low incomes and high reproduction rates and provide poor care for their own children, thus contributing to the ongoing cycle and perpetuation of poverty within families (Ilifa Labantwana, 2019; Ministry of Human Resource Development, 2019; Ministry of Women and Child Development, 2010). Therefore, it is important to develop and sustain a system in ECD to ensure that the cycle of poor care for children is broken to contribute to a better South Africa. On this topic, the DSD (2014) has the following to say:

The quality of early childhood education and care for poor communities is inadequate and generally very poor. Despite the policy commitment to early

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<sup>4</sup> Zulu is one of the 11 official languages in South Africa.

childhood development, implementation in the poorest communities lags behind and it is reflected in the development indicators on children.

In low- and middle-income countries, such as Brazil, India, and South Africa, recognition of the importance of investing in ECD has rapidly been growing. The challenges, however, relate to systems development, infrastructure, delivery of equitable and quality provision, and the ability to recruit, retrain, and support ECCE personnel in different settings (Unesco, 2015). There are also stark differences between children's learning and development experiences according to categories of difference, such as social class and geographic location, for example urban-rural disparities (Neumann & Hatipoğlu, 2015).

Meanwhile, research worldwide states that children who attend ECCE programmes are better equipped for formal academic progress later in their lives, while disadvantaged children are less likely to enrol in school at the right age (DHET, 2017). Smith et al. (2016) point out that children are more likely to experience educational success, establish better mathematics, language, and social skills, and will be better self-regulated, to name a few advantages, which, in turn, will lead to lower teenage pregnancy rates and less need for special education if children are exposed to early education practice, which starts with ECCE, which is the focus of this study. There are many factors that influence access to education, including uninvolved parents, children living with grandparents because of parents working far away, and even childminder households, due to the death or absence of both parents (Organisation for Economic Cooperation and Development [OECD], 2017).

In light of the above discussion of early educational experiences, we look at ECDCE, which includes ECCE, first. ECCE specifically addresses the development, care and education of babies, toddlers, and young children (0-4 years). Even though the focus of this study is on the motor development of babies, it is important to understand what ECDCE entails and where ECCE and the motor development of babies are positioned in the ECDCE context. First, we investigate ECDCE internationally, before we look at this phenomenon nationally, in South Africa.

## **2.4 ECDCE internationally**

The Bernard van Leer Foundation was founded in 1949 and has been focusing on opportunities for young children from birth to eight years who are growing up in disadvantaged social and economic circumstances (Bernard van Leer Foundation, 2021), and, therefore, links with the South African context. For more than 50 years, this foundation has been working worldwide to improve the lives of babies, toddlers, and young children. Oscar van Leer,

founder of the Bernard van Leer Foundation, believes that making small changes early in someone's life can change their future dramatically and is of the opinion that all babies and toddlers deserve a good start in life. He believes that when one invests in young children's lives, one contributes to creating healthy, creative, and peaceful societies in the world. Therefore, the foundation has a mission to assist struggling countries to promote and support ECD for a healthy and peaceful society, which starts with guiding each child in realising and reaching their full potential (Bernard van Leer Foundation, 2021; DSD, 2014; Neumann & Hatipoğlu, 2015; Unesco, 2015).

The 2016-2020 strategy plan of the Bernard van Leer Foundation focuses on the reflection of global diversity to improve young children's holistic learning and development, which also include health and nutrition. Countries such as Brazil, India, Israel, Côte d'Ivoire, the Netherlands, Peru, and Turkey were included in this project because of their economic, geographical, and cultural diversity, which also links with the South African context. The aim of involving these countries relied on opportunities to learn, share knowledge, and have a transformative impact on ECDCE. Involving these countries with their economic, geographical, and cultural diversity is seen as strengthening relevant ideas across different regions and can give countries a variety of best knowledge and practice to compare, share, and learn from one another to ensure a transformative impact within ECD (Bernard van Leer Foundation, 2021).

In this study, I discuss three of these core countries in short to look at the background and practice of ECDCE as compared in these economic, geographical, and culturally diverse countries. I look at India and Brazil, which form part of the BRICS organisation (consisting of Brazil, Russia, India, China, and South Africa), just like South Africa, which faces similar economical and contextual challenges. I also look at the Netherlands because we can learn from them within ECDCE, and specifically in the field of ECCE.

Firstly, the **Netherlands** divides ECDCE into two groups. The first group resonates under the Department of Social Affairs and Employment (*Ministerie van Sociale Zaken en Werkgelegenheid*), which includes ECCE centres taking care of children from birth up to the age of four (Bernard van Leer, 2021). The second group includes ECE for children between four and six years of age and resonates under the Department of Education, Culture and Science (*Ministerie van Onderwijs, Cultuur en Wetenschappen*) (Government of the Netherlands, 2021). In the Netherlands, there is no set curriculum that must be followed in ECD centres, but developmental goals are used as a guideline. In these centres, children's health, nutrition, and education are monitored by local authorities. Practitioners who work in the ECDCE field in the Netherlands must have a bachelor's degree in ECE, and their salaries

are above average despite their teaching hours being annually lower than average (OECD, 2016).

In **India**, ECDCE includes the care, education, health, and nutrition of children from birth up to the age of six years. ECDCE settings include home-based and pre-school settings, such as day-care centres. Pre-school centres are supported by the government and are free to all children. These centres are divided into two components. The first component is community-based centres, which are rented spaces in a community and resonate under the ECCE Department of Women and Child Development of each state (Bernard van Leer, 2021; Subramanian, 2019). Secondly, pre-schools that are found in government schools resonate under the Department of Education of each state (Subramanian, 2019). ECCE practitioners in India are paid poor salaries, and there is no real demand for training practitioners. The curriculum followed is divided into three components and includes early stimulation for children who are three years old and younger. The early stimulation guidelines mainly involve parents and informal education. Furthermore, a centre-based curriculum, focusing on the development of young children through play, guides practitioners looking after three- to five-year-old children. The third component of the curriculum includes a school readiness curriculum for children turning six years (Subramanian, 2019; Taylor et al., 2020).

In **Brazil**, ECDCE is also seen as the first stage of education and includes the care, education, health, and nutrition of children from birth to the age of six years. ECCE in Brazil resonates under regional municipalities under guidance of the Department of Education in collaboration with the Department of Social Welfare and Health. Regional representatives are trained to guide schools in complying with guidelines set out by the municipal education system. Practitioners in Brazil do have opportunities for in-service training programmes offered by the government, even though a major challenge is still to provide cross-sectoral and recurring evaluation and monitoring of ECD in Brazil (Centre for Public Impact, 2020; TheDialogue, 2021). In Brazil too, ECCE is divided into two components, namely day-care centres (age 0-3 years) and pre-schools (age 4-5 years) (Taylor et al., 2020). While in Brazil, school has been compulsory for four- to five-year-old children since 2013, the country also recognises zero- to three-year-olds' non-compulsory school status as a priority.

Like in Brazil, India, and the Netherlands, ECDCE in **South Africa** is also seen as the first stage of education and includes the care, education, health, and nutrition of children from birth to the age of nine. In South Africa, the term "early childhood development" or ECD is commonly used to refer to the abovementioned stages of education for children aged zero to nine years. ECD in South Africa is also divided into two components, one catering for ages zero to four (including 5-year-olds) and the other for six- to nine-year-olds. The component catering for

zero to five years is referred to as “ECCE” and includes settings such as home-based groups (with *gogos*), playgroups, and ECCE centres (0-5 years), as well as pre-schools (4-6 years). The ECD component including children aged six to nine years (Grades R – 3) is referred to as the “Foundation Phase” and is included in registered government and private schools. Grade R (6-year-olds) is also referred to as the “preparatory year”, and Grade 1 to Grade 3 is the seven- to nine-year-old group within the Foundation Phase. The learning content in the Foundation Phase focuses on three subjects, namely Mathematics, Life Skills, and Languages. Languages consist of First and Additional Language (CAPS, 2014). The First Language is the language of learning and teaching chosen by the specific school, and the Additional Language is one of the 11 official South African languages, which depends on the policy of the specific school.

As mentioned above, South Africa has 11 official languages that consist of nine indigenous languages, plus English and Afrikaans. The South African *Language in Education Policy* clearly states that all children have the right to be taught in their mother tongue in the three years of the Foundation Phase (Cekiso et al., 2019). Research has shown that it is beneficial for children to be taught in their mother tongue, because they can already speak the language, and therefore, they can go to school and learn the content because they learn in a language that they already understand. This will most possibly lead to better academic performance if they learn in a language they understand but can be detrimental to children’s academic performance if they learn in a language in which they themselves are not fluent (Cekiso et al., 2019). Even though the official language policy states that every child has the right to be taught in their mother tongue, in reality, it is not always possible and leads to teachers and practitioners code-switching and blending languages to help children to better understand what is taught (Kretzer & Kaschula, 2020). Mother-tongue language learning and teaching are also not always a reality in ECCE centres in informal settlements due to families speaking different indigenous languages living in the same area and taking their children to the same centre for care and education (Kretzer & Kaschula, 2020).

## **2.5 Comparing ECDCE internationally with ECDCE in South Africa**

In Table 2-1, the three countries – the Netherlands, India, and Brazil – are compared to South Africa, which is the context of this study. These countries formed part of a study conducted by the Bernard van Leer Foundation (2021), of which the focus was on ECDCE of children growing up in disadvantaged social and economic circumstances.

**Table 2-1: Comparing ECDCE in Netherlands, India, Brazil and South Africa.**

ECDCE	Netherlands	India	Brazil	South Africa
Includes children:	<b>0-6 years</b>	<b>0-6 years</b>	<b>0-6 years</b>	<b>0-9 years</b>
<b>Refers to:</b>	the care, education, health, and nutrition of young children	the care, education, health, and nutrition of young children	the care, education, health, and nutrition of young children	the care, education, health, and nutrition of young children
<b>Resonates under the:</b>	Department of Social Affairs and Employment (0-4 years ECCE) Department of Education, Culture and Science (5-6 years)	Department of Women and Child Development of each state (0-4 years ECCE). Department of Education of each state (pre-schools in government schools)	Department of Education – regional municipalities Department of Social Welfare and Health	DSD (0-4 years) DBE
<b>Includes settings such as:</b>	early childhood centres	home-based pre-schools, including day-care centres	day-care centres (0-3 years) pre-schools (4-5 years)	home-based ( <i>gogos</i> ) playgroups ECCE centres (0-5 years) pre-schools (4-6 years) Foundation Phase (6-9 years)
<b>Curriculum consists of:</b>	developmental goals used as guideline no set curriculum	three components: <i>early stimulation</i> for children zero to three years old. <i>Centre-based</i> development through play for three- to five-year-olds school readiness for six-year-olds	guidelines set out by the municipal education system	the Birth to Four Curriculum Framework (0-5 years). Foundation Phase, which is Grade R to 3 (6-9 years) known as the CAPS

ECDCE	Netherlands	India	Brazil	South Africa
<b>Practitioners' training and qualifications:</b>	bachelor's degree	training has been neglected	in-service training programmes offered by the government	programmes offered by NGOs and NPOs, further education and training colleges, and higher education institutions

*Developed by the author based on information from the Bernard van Leer Foundation.*

## 2.6 ECDCE in South Africa

More than 20 years ago, ECDCE (0-9 years), which includes ECCE (0-4 years), was identified as the weak link in the education system of South Africa. Since 1994, most young children in South Africa are still born into environments that are not conducive to providing opportunities for developing individual potential to its full extent (Taylor et al., 2020). The general environments are typified by insufficient access to high-quality health services, nutritional support, and the support of primary caregivers, social services and protection, and quality early learning programmes known as the “Essential Package of ECDE services” (Ilifa Labantwana, 2014).

Holistic ECD is influenced by the environment in which a child grows and develops (see Sections 1.1, 3.2). The quality of care and stimulating interaction that a child receives will affect the child’s development (World Health Organisation [WHO], 2018). Children need nurture and care to ensure that they develop holistically. Nurture and care are crucial to the well-being of children and, in turn, have a direct effect on their self-esteem and determine who they eventually become (Excell & Linington, 2020; WHO, 2018). In South Africa, a lack of qualified ECCE practitioners contributes to the crisis of children not developing holistically during the early years, which will have an impact on their developmental abilities in later years (Zulu et al., 2022) (see Sections 1.1, 3.1, 3.3).

To reduce poverty and inequality in South Africa, the government has recognised early childhood development as part of a national goal (DSD, 2015) (see Section 1.1). According to Murriss (2019), learners from lower socio-economic backgrounds in South Africa are systematically and educationally disadvantaged from a very young age, and quality education for all has not yet progressed as people had hoped it would. The major goal of ECE, nationally as well as internationally, is to ensure that all learners are ready for school by the time they enter the Foundation Phase (preparatory year to Grade 3) at the age of six (Murriss, 2019), which, in turn, will have an effect on children’s success experienced in schools throughout their school careers, as most brain development happens in the first seven years of a child’s life (King et al., 2016).

Concurrent with the aforementioned is the development of early physical (including motor development), cognitive, language, social, emotional, and self-regulation skills of children, ideally stimulated by parents or practitioners, as a critical component of ECDCE. If the micro-environment is not favourable (Bronfenbrenner, 1974), the abovementioned skills are not always valued (see Section 3.2), which means that ECDCE stays a weak point that is hampering the education effort in South Africa (Excell & Linington, 2020; Gallahue et al., 2020; Wolhuter, 1998; Zulu et al., 2022).

In 1994, the South African Congress for Early Childhood Development was established based on the important role that NPOs<sup>5</sup> played in ECDCE and the advocacy for the rights of young children, especially in the poorer communities across South Africa (National Association of Social Entities in Education, 2019; Nel et al., 2007). The South African Congress for Early Childhood Development plays an active role in assuring that ECE features within the new policies compiled by government departments and in the training of practitioners, the registration of ECD centres, increasing access to ECDCE, policy development, and research in the field of ECDCE.

The *Bill of Rights* in the *South African Constitution* of 1996 clause makes provision for children's socio-economic rights, including the right to basic education and protection from neglect, abuse, and exploitation. Several policy and programme initiatives have been introduced since 2001 to address this weakness in education and emphasise the importance of education starting at a very young age. Systems were set up by the government to develop policy frameworks and to ensure that research is conducted in an attempt to better understand ECD in context as ECDCE in South Africa was developed and implemented (Taylor et al., 2020).

Various programmes are offered in South Africa, for example home-based programmes, playgroups, ECCE centres, pre-school settings, and Grades R to 3, which are, in most cases, included in primary schools. Teachers receive training, but only teachers teaching Grades R to 3 must have a bachelor's degree, and in-service training forms part of the degree, just like in Brazil where in-service training programmes are offered by the government. In South Africa, practitioners who take care of babies, toddlers, and young children currently do not need a qualification. Teacher training in India has been neglected, even though the curriculum for ECD consists of three components focusing on early stimulation, centre-based development, and school readiness. Practitioners working in ECCE in India are not as fortunate as ECCE practitioners in the Netherlands, as the training and working conditions have been neglected in the ECCE settings. In South Africa, the MRQECCE (DHET, 2017) was published to guide qualification development and training for practitioners in the ECCE field, because most ECCE practitioners in South Africa do not have an appropriate qualification to provide quality education to young children (Zulu et al., 2022).

Furthermore, to ensure quality early learning programmes in South Africa, the government supports registered ECD centres financially if they comply with all minimum regulations. The

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<sup>5</sup> A private, independent, or self-governed organisation set up to provide goods and services through voluntary participation to people. NPOs operate on the principle that profits are re-invested in the organisation and that no member will receive profits or losses from the entity (Buonomo et al., 2020).

*Children's Act* 38 of 2005 clearly states that if there are seven or more children taken care of at a specific facility, the ECD centres must register as a partial care facility or after-care services with the DSD. The centre manager is responsible for compiling a portfolio of evidence that needs to be submitted to the DSD, which then evaluates the application and, after the site inspection has been signed off, provides the registration certificate to the ECD centre. This is a timeous process, and many documents are required in this portfolio. Documents required are copies of identity documents, qualifications of staff members, clearance certificates for each staff member against the National Child Protection Register, a full business plan, title deed, or lease rental agreement, a constitution, approved building plans, an emergency evacuation plan, land use clearance, a fire and safety certificate, a food premises certificate, ECD programme registration, copies of any other registrations, and all relevant policies, such as child abuse, menu, staff recruitment, health, human immunodeficiency virus, and disability policies (Centre for Early Childhood Development, 2020).

From a policy perspective, it is evident that in some areas, South Africa has made progress, while in others, little or no progress has been made. For example, South Africa has no complete birth registration – the *South African Early Childhood Review* (Ilifa Labantwana, 2017) published the population of under-six-year-olds as 6,2 million, but re-weighted data from Statistics South Africa (2017) stated the population of under-six-year-olds as close to seven million children (Proudlock, 2018). The data have enormous implications for planning, strategies, and budgets across the mentioned interdependent departments, along with the management of a budget for ECD, nutritional programmes, and the improvement of a trained workforce, with closely aligned curricula with the Foundation Phase. The question arises whether children in South Africa are surviving or thriving, and what we are doing to help our children to thrive.

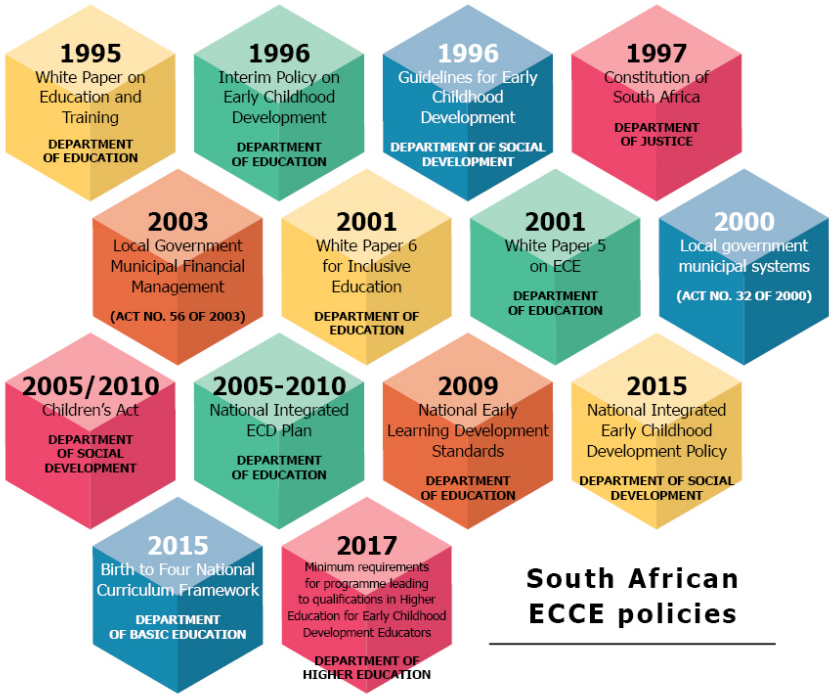
## **2.7 Policies guiding ECD in South Africa**

In South Africa, the term “early childhood development” or ECD has been used since 2001 and refers to all programmes and services for young children (0-9 years), globally also referred to as “early childhood development, care, and education” or ECDCE. Legal frameworks, which include laws, regulations, and guidelines, have been developed and implemented since 1994 to ensure that ECD in South Africa develops and grows. ECD is a multi-sectorial field and includes various South African departments, such as the DBE, the Department of Higher Education, the DSD, the Department of Health and Safety, and the Department of Housing, to mention only a few (Taylor et al., 2020).

In the past, ECD resonated under the DSD, but in the 2019 State of the Nation, President Cyril Ramaphosa announced that the ECD mandate needed to shift from the DSD to the DBE (Office

of the Presidency, 2019). Ramaphosa added that children’s education in poorer communities (informal settlements) of South Africa needed to be prioritised by starting with ECE (Office of the Presidency, 2019). The official ECD function shift handover took place on 1 April 2022. However, it is imperative to understand that ECD has a broad range of interdependent needs and role players that include the Departments of Health, Basic Education, Social Development, and Home Affairs, as well as Police Services, Justice, and Local Government Departments, since children are vulnerable and cannot protect themselves (DBE, 2015). All the involved departments have their own frameworks with a section focused on ECD specifically.

The aim of the DBE is the development of improved policies to control and guide quality, safe, healthy, and inclusive education for the ECD sector in South Africa. Following is a discussion of the various policies informing ECD and clarifying its importance.



**Figure 2-3: Policies guiding ECD in South Africa.**

The information above was re-designed and presented for the purpose of this study from the *National Integrated Early Childhood Development Policy* (DSD, 2015, p. 30-31) and is discussed below.

The ***National Programme of Action for Children in South Africa*** was a framework approved by the cabinet in 1996 and included various policy areas of ECE and basic education (South African Government, 2020). This plan had various goals, including developing low-cost

interventions to support the expansion of ECD. Taking into account the changing society, culture, legalities, and the development of education, the **National Programme of Action for Children in South Africa** was revised in 2012 and called the **National Plan of Action for Children in South Africa 2012-2017** (Department of Women, Children and People with Disabilities, 2012). This policy provides a holistic framework for all policies and plans developed by multi-sectors within the government to promote the well-being of children. These include policies and plans for quality ECD interventions for children from birth to school-going age (Department of Women, Children and People with Disabilities, 2012).

Curriculum development for children from birth to four years is guided by the **South African National Curriculum Framework for Birth to Four (NCF)** (DBE, 2015) (see Sections 1.1, 1.11, 3.3.2, 6.1.4, 6.1.5) and is implemented through training workshops to practitioners and parents in the ECCE field. The NCF is used as a guideline to develop training or course materials by various training organisations, including higher education institutions. Furthermore, the NCF provides guidance on how to develop programmes and implement teaching and learning experiences for young children from birth to four years of age (Taylor et al., 2020).

The *Policy on Minimum Requirements for Programmes Leading to Qualifications in Higher Education for Early Childhood Development Educators* (MRQECCE) (see Section 2.5) was released in 2017 by the DHET (2017). These are the guidelines referring to the development of quality training for ECCE (0-4 years) practitioners through higher education institutions across South Africa (Taylor et al., 2020).

In 1995, the Department of Education released the **White Paper on Education and Training**, in which the importance of child well-being within the early years was highlighted, after which the **Interim Policy on Early Childhood Development** was released in 1996. This policy recognises that ECD is a multi-sector with many different aspects (Taylor et al., 2020). The vision of the first national ECD policy initiative was to address past imbalances and provide affordable and equal access to a variety of ECD services and programmes. This also included the **Constitution of the Republic of South Africa**, which was also released in 1996. The focus of the *Constitution of the Republic of South Africa* is to guarantee the right to basic education, health safety, family and parental care, nutrition, and shelter for all children under the age of 18, to mention only a few.

The DSD also released a policy in 1996 called the **Guidelines for Early Childhood Development**, which stipulates all the requirements and regulations for setting up ECD services in South Africa. The **White Paper on Social Welfare**, released in 1997, guides welfare and social development within ECD services in South Africa to children under the age of five years (DSD, 2015).

In 2001, the ***White Paper 5 on Early Childhood Development***, by the Department of Education, introduced the concept of integrating services for young children to ensure holistic development through the provision of care, nutrition health, and protection as well as early stimulation. It was this policy that guided the introduction of the reception year (Grade R). Furthermore, early detection and intervention in ECE and ECD were laid out in the ***White Paper 6 for Inclusive Education in 2001***.

The ***National Early Learning Development Standards (NELDS)*** document was introduced in 2009 and provides the early learning developmental expectations of children from birth to age four years (see Sections 1.1, 1.11, 3.3.2, 6.1.4, 6.1.5). These standards are seen as guidelines for children's early learning competencies and guide the development of curriculum and materials for training programmes. In December 2015, the ***National Integrated Early Childhood Development Policy*** (DSD, 2015) was approved by the Cabinet. This policy was designed to provide guidelines for children from birth to age five years with a comprehensive package of programmes, interventions, and services through a multi-sectoral system and enable the delivery of group-based early learning delivery at national and provincial levels.

The ***National Integrated Early Childhood Development Plan (2005-2010)*** was developed from the *White Paper Five on Early Childhood Development*. This was the first multi-sectorial plan that provided for young children from birth to age five but was not implemented by the government. Many NGOs<sup>6</sup> in South Africa used this plan to create programmes for children from birth to age five for their own communities (Taylor et al., 2020).

## **2.8 Education and training of ECCE practitioners in South Africa**

NGOs have been offering training to ECCE practitioners from as early as 1980. In the ECD sector, NGOs mainly provide services to communities in poor communities in South Africa. Services provided by NGOs entail the care, protection, and education of young children and their families. A range of community day-care centres and a variety of training organisations are all included in these NGOs (Taylor et al., 2020). In general, programmes offered by NGOs are non-accredited programmes, but after 1994, the DHET, together with the South African Qualifications Authority (SAQA), started collaboratively developing accredited training programmes for ECD practitioners.

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<sup>6</sup> Non-governmental organisations (NGOs) are organisations formed independently of the government and are NPOs (see Section 2.5) that provide services in communities. "NGO" is the term used to describe any non-profit entity and, therefore, the terms "NGO" and NPO can be used interchangeably.

Currently in South Africa, there are various training programmes on NQF Levels 4 and 5. The DHET is responsible for the qualification policies for institutions of higher education and further education and training, which include universities and technical and vocational education and training colleges. The current NQF Level 4 and 5 programmes are early childhood certificates offered by NGOs. These include N4, N5, and N6 certificates that can provide access to a diploma (NQF Level 6) in ECD.

The DHET has partnered with the EU in a five-year project, namely the Teaching and Learning Development Capacity Improvement Programme, that aims to strengthen initial teacher education (DHET, 2018). The EU allocated funding to the DHET to develop qualifications to enhance teacher training in the field of ECCE (birth – 4 years age group). The DHET allocated this funding to the majority of higher education institutions in South Africa to develop qualifications to enhance teacher training and ensure that there are well-qualified practitioners in ECCE centres (Zulu et al., 2022). The North-West University was one of the recipients of EU funding for the development of ECCE qualifications. The researcher was appointed in the Teaching and Learning Development Capacity Improvement Programme project to develop professional qualification programmes for ECCE practitioners (birth – 4 years age group) in collaboration with the PIECCE and relevant universities (see Sections 1.1, 1.3). (For more information on these projects, visit <https://mq.co.za/special-reports/2021-04-08-the-teaching-and-learning-development-capacity-improvement-programme/>.)

The PIECCE project is collaboratively led by the University of South Africa, the South African Institute for Distance Education, the Centre for Social Development at Rhodes University, and BRIDGE. BRIDGE is an NGO that guides collaboration among contributors in the education sector to improve the quality of education in South Africa. At the request of the DHET, and with additional support from them, the consortium was extended to include a few higher education institutions, namely the University of Pretoria, Witwatersrand University, the University of Fort Hare, the University of Free State, the University of KwaZulu-Natal, Walter Sisulu University, Cape Peninsula University of Technology, the North-West University, and the University of the Western Cape (joined 2019). The universities worked collaboratively to develop two aligned national qualification frameworks – the Diploma in ECCE and the Baccalaureus Educationis degree in ECCE. The Diploma in ECCE on NQF Level 6 and the Bachelor of Education in ECCE on NQF Level 7 have both been developed by the abovementioned universities throughout South Africa and will soon (2023) be available at most of these universities to enrol in for training to be ECCE practitioners.

The education sector, for example the government and universities, has a responsibility to design and offer qualifications that will afford professional status and recognition to the ECCE sector. They should not only focus on the designing and offering of qualifications but should also consider that the *Constitution of the Republic of South Africa* of 1996, together with the *Education White Paper 5 on Early Childhood Education* of 2001, stipulates that all children have the right to health, safety, nutrition, shelter, and education (including early stimulation), to mention only a few (Department of Education, 2001; DSD, 2015).

For the South African government to be able to meet the demand to increase quality early learning programmes for children growing up in deprived socio-economical environments, it is a great priority to train and enable ECCE practitioners to get an appropriate qualification (Zulu et al., 2022). Therefore, the MRQECCE (DHET, 2017) was developed and used as guideline (see Section 2.5) to develop the abovementioned qualifications for the ECCE workforce (Zulu et al., 2022).

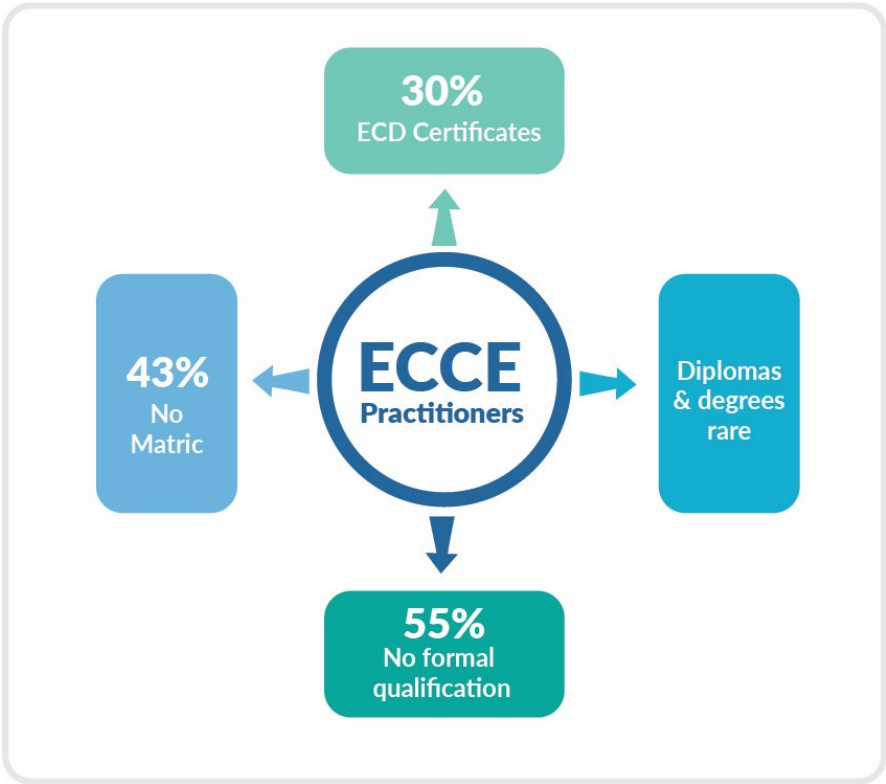
The discussion above shows that South Africa has been developing and implementing various policy frameworks for many years to support the development and growth of ECD in South Africa, including the development of children from birth to age four years.

A total of 19 971 ECD or ECCE centres across all nine provinces in South Africa were part of a national audit done by the DSD, which started in August 2013. This audit was undertaken to investigate the nature and development of ECD management, resources, services, and infrastructure. It was found that only a third of the centres in use had been built for the purpose of an ECD centre, and the rest comprised centres run from a person's home, garage, or shack (DSD, 2014). The audit found very little evidence of a curriculum that was followed to ensure that young children would develop socially, emotionally, cognitively, and physically (holistically). The following was derived from the national audit:

“ECD programmes must provide appropriate developmental opportunities and care for our children, ensuring that their emotional, cognitive and physical development needs are met throughout their early lives. The information provided by this audit will help [the] government meet this objective,” Minister Dlamini Zuma. (DBE, 2015, p. 7)

Through the national audit, it was clear that the qualifications of ECCE practitioners were poor, and 43% of these practitioners did not have a matric certificate (DSD, 2014). Only 30% of ECCE practitioners had ECD certificates on any level, and diplomas and degrees were rare.

Furthermore, 55% of the practitioners had no formal qualifications. The qualifications of ECCE practitioners are shown in Figure 2-4.



**Figure 2-4: Qualifications of ECCE practitioners.**

There is evidence in low- to middle-income countries that shows that both the programme quality and child outcomes can be attributed to input from practitioners who are better educated and trained (Behrman et al., 2013; Engle, 2011; Rao et al., 2014). For this to happen in a substantive manner, the support in continuing professional development must be strengthened.

Practitioners in informal settlements lack support from the government and are not provided with quality training to be able to teach young children (Zulu et al., 2022). Zulu et al. (2022) found that practitioners' education and training were shaped by their cultural and environmental beliefs and constraints, which resonates with the CHAT theoretical framework underpinning this study (see Section 1.6.2). The typical ECCE practitioner is under-appreciated by the community because ECCE practitioners are classified as a low-income profession. Most ECCE practitioners are women who work long hours and have little leave to take. Findings by Zulu et al. (2022) show that ECCE practitioners in informal settlements need support regarding training that includes shorter in-house training interventions to be able to equip them as practitioners to ensure quality early learning in ECD centres.

A potential consequence of intervention programmes for the professional development of ECCE practitioners is to better equip practitioners with the necessary knowledge, skills, and values to ensure a lasting effect on the development of young children. The early stimulation of babies is the starting point of laying a solid foundation for later success. Investing in children's lives at a very young age can improve our communities and the world in which we live; hence, it is necessary to ensure that all children, starting with babies, receive the necessary stimulation to ensure optimal development. Therefore, training practitioners to understand the importance of early stimulation is of the utmost importance and will contribute to the successful implementation of ECCE curricula in South Africa. Practitioners who are better equipped will be able to stimulate children to develop more successfully.

The development of standardised training and qualifications that will provide a career pathway for ECCE practitioners is regarded as a priority in South Africa. Furthermore, the education sector has a responsibility to develop quality programmes to equip ECCE practitioners with information, knowledge, and skills to support the implementation of the NCF, which includes the health, safety, nutrition, education, and early stimulation of young children (DHET, 2017).

## **2.9 Conclusion**

In this chapter, ECDCE, both internationally and nationally, was discussed and compared. ECCE includes the care, education, health, and nutrition of young children from birth to six years of age in the Netherlands, India, and Brazil, while in South Africa, young children from birth to nine years of age are included in this sector, which is referred to as the "ECD sector". The ECDCE settings in the abovementioned countries, including early childhood centres, home-based pre-schools, day-care centres, and playgroups, were discussed. Furthermore, policies guiding ECD and training and the lack of training of ECCE practitioners in South Africa were discussed.

Holistic child development, which includes physical, emotional, cognitive, and social development, will be discussed in Chapter 3. Developing a child holistically is important to ensure practitioners deliver well-rounded children who can eventually function as individuals in society. Laying the foundation for holistic development in the early years is crucial. In this study, the focus is on motor development, which is a component of physical development and is fundamental for the holistic development of babies from birth to the age of 18 months. Motor development and Gallahue's (1998) motor development model are the focus of Chapter 3.

# CHAPTER 3 MOTOR DEVELOPMENT OF BABIES ZERO TO 18 MONTHS

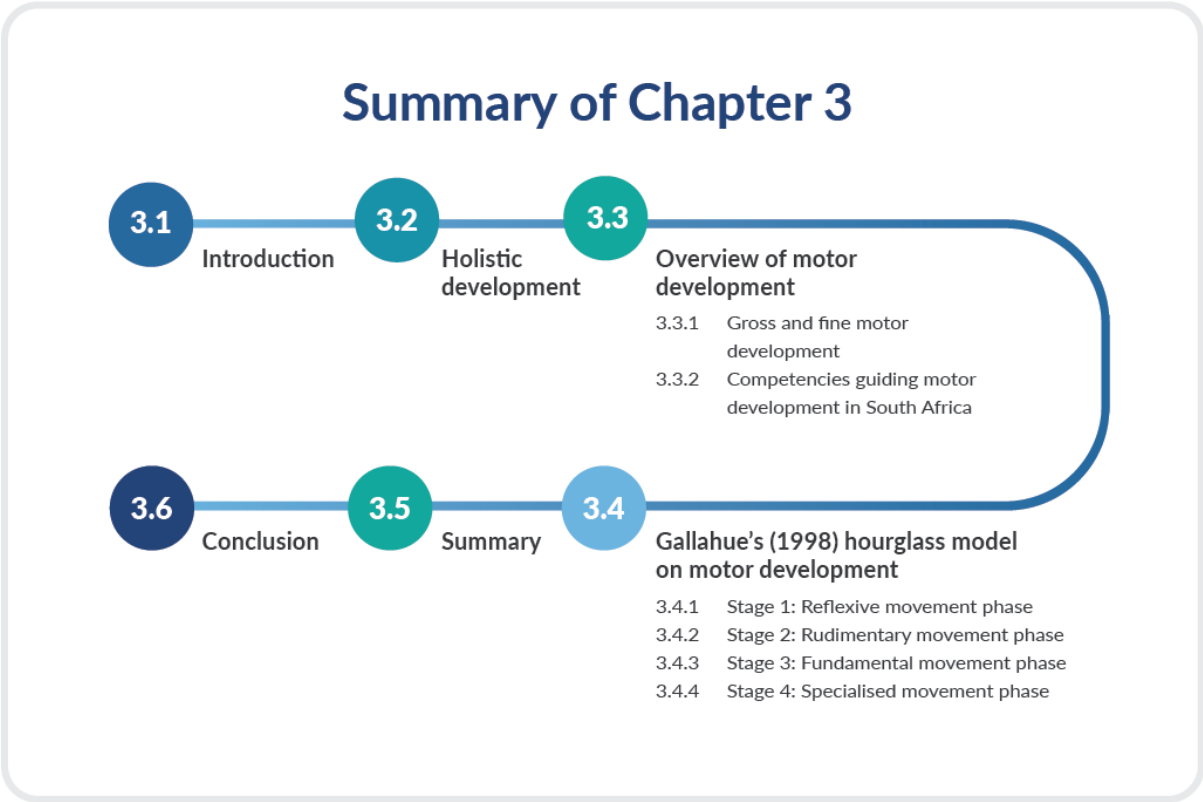


Figure 3-1: Chapter summary.

### 3.1 Introduction

In Chapter 2, I gave a background of the education system in South Africa where I looked at ECDCE internationally and nationally. I discussed different terms used globally in the field of early childhood and came to realise that “ECDCE” is the general term for early childhood development, care, and education and includes children from birth to the age of nine years. In South Africa, we refer to ECD policies and education and training of practitioners, as discussed. In this chapter, I explain what holistic development is and give an overview of what motor development entails. Furthermore, I discuss Gallahue’s (1998) hourglass model of motor development.

ECDCE in South Africa has not yet been able to create equal opportunities for all young children in the country (Bleibinger et al., 2019; Koen et al., 2021). The *South Africa Early Childhood Review* (Ilifa Labantwana, 2019) highlights that there are still over one million young children up to the age of five years who do not have access to early learning programmes and emphasises the importance of stimulation for holistic development in the early years of a child’s life; therefore,

it is important to investigate possible learning programmes from birth (see Sections 1.1, 2.6, 2.7, 3.1, 3.2). With this in mind, the objective of this study is to explore how a PALAR process can support ECCE practitioners in under-resourced ECCE centres in informal settlements to promote the motor development of babies (0-18 months).

The DBE (2009) identifies three different ECCE age categories, as tabled below, based on the NELDS (2009) (see Sections 1.1, 2.7, 2.8). These ECCE age categories are also in line with the NCF (DBE, 2015), as discussed in Chapter 2 (see Sections 1.1, 1.11, 2.7, 2.8).

**Table 3-1: ECCE age categories.**

ECCE AGE CATEGORIES	
<b>Babies</b>	0-18 months old
<b>Toddlers</b>	18-36 months old
<b>Young children</b>	3- to 4-year-olds (including 5-year-olds)

The age categories summarised in Table 3-1 are all accommodated in ECCE centres, and therefore, it is of the utmost importance for practitioners working in ECCE centres to know how to create safe environments that will have a positive effect on children’s growth and development. Because babies learn through movement, they need a stimulus-rich and safe environment in which they can play, explore, and move around in an effort to learn to sit, stand, crawl, and walk (DSD, 2007; Goodway et al., 2021; Marotz, 2020; Rala & Salami, 2019).

Haywood and Getchell (2020) explain that the term “motor development” refers to the development of babies when they learn through movement abilities. These movement abilities include fundamental movement skills (motor skills) that involve body parts such as the hands, arms, feet, head, trunk, and legs (see Section 1.1). Motor development depends on the development of movement abilities by interacting constraints in the individual, the direct or micro-environment, and the task that drives the changes to take place (Grow, 2020; Haywood & Getchell, 2020; Goodway et al., 2021). Furthermore, motor development can be enhanced through nurturing, care, and stimulation by adults who have a direct influence on the child’s development. Babies need to be stimulated to move their arms and legs freely without restrictions to develop motor skills such as holding, rolling, turning, crawling, standing, and walking (Clark & Metcalfe, 2002; DBE, 2009; Haywood & Getchell, 2020). These stimulating activities must be adapted to suit each baby’s developmental milestone level. Therefore, a knowledgeable and skilled adult in a safe, hazard-free, clean, stimulus-rich environment with colourful and interesting

resources and age-appropriate activities will motivate babies to move around and promote optimal motor development (Department of Health, 2016; Goodway et al., 2021).

The *Guidelines for Early Childhood Development* (DSD, 2007) in South Africa (see Section 2.4) clearly state that various research studies globally highlight that physical, emotional, social, and cognitive growth and development, also known as “holistic development”, are crucial between the ages of birth to seven years (Zulu et al., 2022). This includes the development of motor skills, which is a component of physical development, from when babies are born. Motor skills lay the foundation for later learning and the holistic development of young children and are important for children to acquire to eventually be able to learn to read and write (Goodway et al., 2021; DSD, 2007).

It is, thus, of the utmost importance that ECCE practitioners gain knowledge of and skills in promoting the motor development of babies, specifically in informal settlements where there is a lack of ECD services, which include a lack of training, resources, and funds (Zulu et al., 2022).

Next, I briefly discuss holistic child development to explain why motor skills development is fundamental in the development of babies.

### **3.2 Holistic development**

The term “holistic” refers to looking at something in its totality – looking at the whole picture (Voko et al., 2014). Developing a baby **holistically** means that all areas of development are addressed and interrelated (Brodie, 2018). These growth areas include the social, emotional, cognitive, and physical (including motor development) developmental areas (Goodway et al., 2021). De Jager (2017), Gordon and Browne (2016), and Voko et al. (2014) all agree that there are different domains of growth and development and that these areas cannot operate independently or be separated when we look at human growth and development. For holistic development to be effective, a baby needs a safe environment, which includes parents, caregivers, or practitioners who make the baby feel loved, safe, and cared for. Forming a bond between the baby and the grownup (or caregiver for the purpose of this study) will help the baby sleep, grow, and feed, which will, in turn, result in effective development of the baby, especially when stimulated (Department of Health [DoH], 2016).

In the South African context, it is common for ECCE practitioners or caregivers (parents) who look after babies to only care for and keep the babies safe, which does not include providing stimulating activities for the babies in their daily care. This may be a result of having no training in stimulating activities and not knowing the importance thereof – in other words, because they

do not know how and why it is important, and therefore, they are only doing what they know. In South African ECCE centres, babies are often restricted to a small space and may even be strapped to a caregiver's back for long periods of time, which hinder optimal holistic development of babies, resulting in many babies not reaching their milestones. It is very important to remember that all children grow and develop differently, at their own pace, but overall, children reach milestones in similar time frames or go through similar sequences and developmental patterns, as observed and documented by Doctor Gesell early in the 20th century (Cherry, 2020).

It is the responsibility of caregivers and ECCE practitioners to ensure that children, especially babies, have the opportunity to develop holistically (Brodie, 2018). Thus, it is critical to have practitioners in practice who have the knowledge and skills to provide an environment with different opportunities to optimise holistic development, growing, and learning through stimulating activities in the early years (Brodie, 2018; Excell & Linington, 2020; Van Bergen & Andrews, 2022). Esterhuizen and Grosser (2014) explain that educational intervention programmes offered in ECD centres contribute to the holistic development of children because the practitioners learn how to stimulate development and become aware of age-appropriate developmental guidelines (milestones) that the children in their care should reach at a specific point in time. Having said that, the objective of the research to create an EI on promoting the motor development of babies that aims to support practitioners without sufficient funds or opportunities to create knowledge and skills in this regard is imperative (Essa, 2014; Excell & Linington, 2020).

Adding to holistic development is the social environment in which a baby grows and develops, which includes culture, family, language, traditions, friends, and practitioners in the playroom that have a big influence on the baby's behaviour and personality (Marotz, 2020). The environments in which babies learn and develop are linked to Bronfenbrenner's (1974) ecological systems theory, which focuses on human development (Brodie, 2018; Essa, 2014). According to Bronfenbrenner (1974), environmental influences are classified as a microsystem, mesosystem, ecosystem, macrosystem, and chronosystem. The *microsystem* refers to the people closest to the baby who have the biggest impact on the development of the baby. These people include the parents, family, other babies in the centre, and the practitioners who take care of the baby daily. In this study, the predominant part of development takes place in the microsystem, that is, the ECCE centre, where the development of the baby is the responsibility of the practitioner.

The *mesosystem* refers to the relationships in the baby's world. It is important that the practitioners at the ECCE centre can relate to one another and form positive relationships to work together towards the optimal development of the babies in their care (Essa, 2014).

The *ecosystem* refers to the environment in which the child is not directly involved, but which still influences the development of the child. This entails, for example, parents having to work and leaving the baby to stay with grandparents or practitioners at the ECCE centre and the influence that family, friends, neighbours, and legal services have on the child (Essa, 2014; Rala & Salami, 2019). The baby may long for the mother, and this emotional struggle can influence the development of the child.

The *macrosystem* refers to the culture and beliefs of the family and community (Nel et al., 2016), as there are many diverse families with various backgrounds in South Africa. Furthermore, the macrosystem includes political and economic influences on the development of the young child. The lack of quality services, including a lack of proper centre facilities and transport to and from the centres, as well as a lack of opportunities for training practitioners, which, in turn, leads to a lack of trained practitioners in the ECD workforce, is part of the macrosystem that has an effect on the young child's development (see Sections 1.2, 1.4, 2.3, 2.6).

The *chronosystem* refers to changes and aligns with Engeström's (1996) CHAT, which states that people are shaped by social structures, culture, and history within the context of a community (see Sections 1.6.2, 4.3). These systems are not static but continuously change over time (Essa, 2014; Rala & Salami, 2019). From an ecological perspective, the child is seen as part of various systems, each layer influencing the development of babies, toddlers, and young children (Essa, 2014). This again aligns with Gallahue's (1998) triangulated hourglass model in which the constraining factors in the environment, such as culture, the background of the family, diverse parenting styles, health circumstances, and support from caregivers, play a role in the development of the child.

Part of the layers of influence on babies' development should be interventions to guide the optimal development of babies and to overcome or eliminate obstacles interfering in their development (Essa, 2014; Rala & Salami, 2019). Practitioners need to be aware of the continuous change in the development of the babies in their care and should assess and adapt daily to ensure that the needs of these babies are met. The progression of a dependent baby to an independent young child relies on cognitive, social, emotional, and physical (i.e. holistic) development stimulation and support from the ecological system (Brodie, 2018; Paul & Singh, 2020).

Next, the cognitive, social, emotional, and physical development of young children is summarised with the aim of better understanding motor development, which is the focus of this study.

**Cognitive development** includes a young child's ability to think, solve problems, and express ideas, as well as reading skills, pronunciation, and vocabulary. Cognitive development is a

process of acquiring, organising, and applying knowledge gained in the active learning process (Essa, 2014). Piaget's (1936, 1950) theory of cognitive development marks the idea that children construct their own knowledge from their own direct experiences (Essa, 2014; Paul & Singh, 2020). Babies learn from people and the environment around them; they come into the world curious, and play is a process of movement that helps to foster cognitive development, and in turn, other developmental areas are promoted.

**Social development** is a lifelong process that starts the day a baby is born. The foundation for attitudes, values, and behaviour is laid from day one and eventually includes skills such as sharing, talking, and waiting one's turn (Essa, 2014). Bandura's (1977) social learning theory states that children learn through observing others' behaviour and imitating the behaviour they are seeing. Babies imitate behaviour but also need to learn that they are separate individuals who can operate independently from other people and the environment (Haywood & Getchell, 2020).

Aspects such as developing self-esteem and the ability to express feelings and emotions and to understand oneself are referred to as "**emotional development**" (Brodie, 2018). Babies learn to communicate through emotions long before language is developed. Emotional development commences before birth, develops by bonding with the caregiver, and is rooted in attachment. Attachment is a crucial part of a baby's emotional development and lays the foundation for security and self-esteem and builds emotional regulation and self-control skills, which contributes to success later in life. The best emotional stimulant is time and love given to a baby (Brodie, 2018; Malik & Marwaha, 2021).

**Physical growth and development** in the early years include rapid changes in size, weight, body proportion, and motor skills (Essa, 2014). In young children, physical development provides health and fitness benefits, along with brain development and learning (Clark, 2007). In addition, it is children's ability to use and control their bodies during the various stages of infancy and childhood (Brains, 2015) and is normally seen as running, skipping, riding bicycles, and playing on jungle gyms. For babies, physical development means mobility, developing control over their bodies, and specifically, control over their muscles and physical coordination, which are referred to as "motor development" (gross and fine motor) (Brodie, 2018; Cooper & Harlow, 2018; Essa 2014; Excell & Linington, 2020; Goodway et al., 2021), which is the focus of this study.

Charlesworth et al. (2020) explain that the theorist Piaget (1936, 1950) describes the stage between birth and two years of age as the sensorimotor period in which babies start to learn about the world around them. They, therefore, need opportunities to use their sensory and motor abilities to learn basic skills and concepts. Piaget's (1936, 1950) theory underpins the fact that babies use

all their sensory skills to learn, and these include touch, taste, sight, hearing, smell, and using their muscles (motor skills) (Charlesworth et al., 2020).

### **3.3 Overview of motor development**

Motor development involves the physical growth and strengthening of a child's muscles and bones. It is a continuous process of change in children's movement according to their age and includes factors in the environment that may or may not influence the process of change (Haywood & Getchell, 2021). Motor development is seen as a process of progression that builds on experiences that occur over the life span of an individual, in which change takes place in the movement ability (motor skills) through the interacting constraints (triangulation) of the individual, the environment, and the task that drive these changes (Gallahue et al., 2011; Goodway et al., 2021; Grow, 2020; Haywood & Getchell, 2020). The individual includes heredity, biology, nature, and intrinsic factors that are fixed. The environment refers to extrinsic factors, such as experiences, learning, nurture, and opportunities, whereas the task refers to physical and mechanical factors that have an influence on the development of motor skills (see Figure 3-2). Motor development is fundamental in the development of a young child's life; for example, if a baby can crawl, he or she will be able to move around and explore his or her environment, which, in turn, stimulates other areas of holistic development. With this in mind, the co-researchers who collaboratively formed the ALG (see Sections 1.1, 1.5, 1.7.3.2) decided to focus on the motor development of babies, which is fundamental in the holistic development of a child and a component of the developmental area of physical development.

Gesell (1925, as cited in Charlesworth, 2017) believes that the head and brain develop the fastest during early childhood and that neurological growth is rapid and determines cognitive and motor growth. The brain (cognitive development) and motor development of babies and toddlers are interrelated, and the wiring of the brain becomes stronger through a sensory-stimulated body (Haywood & Getchell, 2020). For example, when a newborn baby has the space to freely kick, reach, and swipe, the brain wiring is strengthened (Johnston & Sanders, 2018), as underpinned by the motor development theory by Gallahue's (1998) hourglass model (see Section 1.7.1). Gallahue's (1998) theory highlights the importance of practice and experience to ensure a strong motor skills foundation, which is crucial in the development of humans (Goodway et al., 2021; Salehi et al., 2017). Motor skills refer to actions involving babies using their muscles, and these skills develop rapidly during the early developing stages (Goodway et al., 2021).

Because motor development forms the foundation for learning, such as reading and writing, and developing social and emotional skills, providing opportunities for emerging a strong motor skills foundation is crucial in preparing children to enter school (Clark & Metcalfe, 2002; De Jager, 2017;

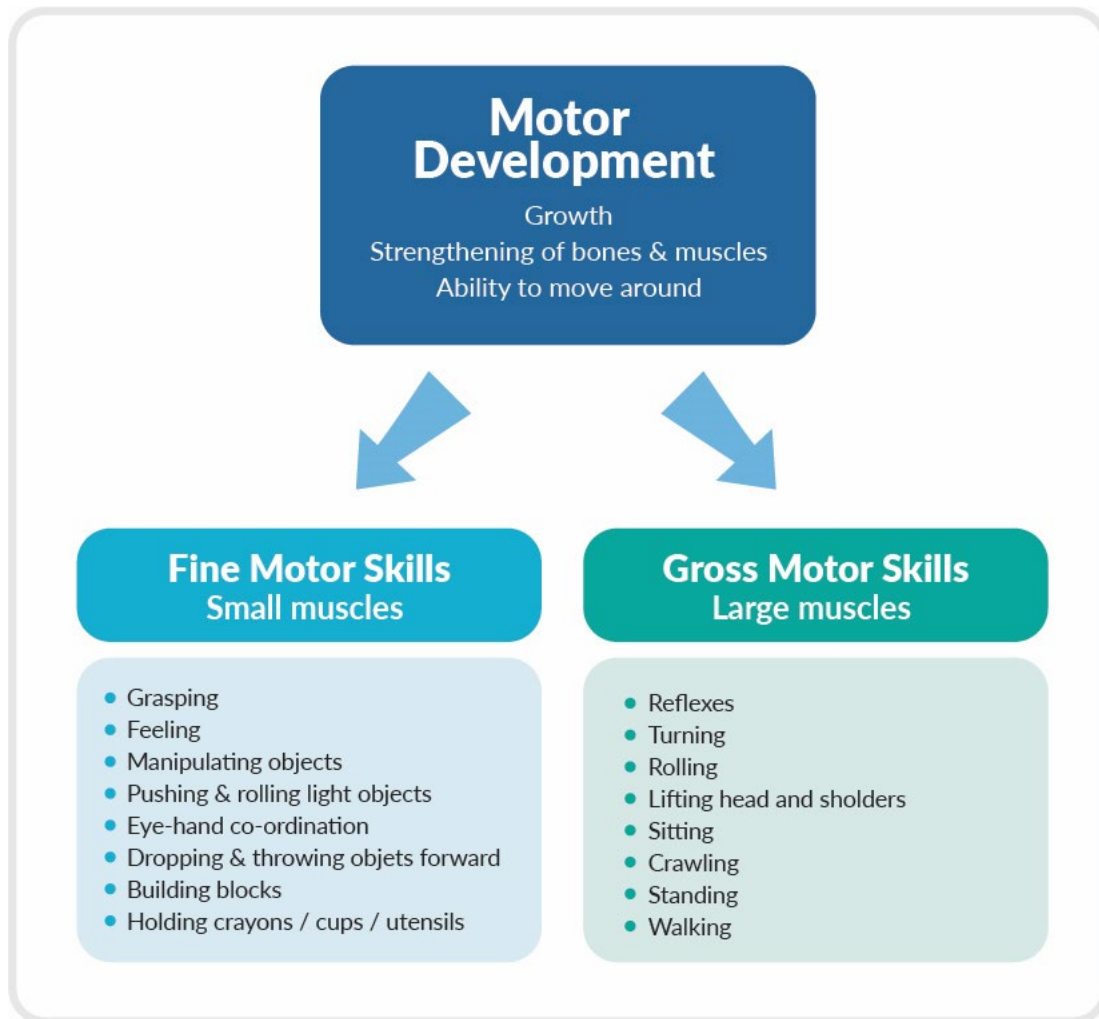
Gonzalez et al., 2019; Goodway et al., 2021; Haywood & Getchell, 2020). Gallahue's (1998) hourglass model of motor development (further discussed in Section 3.4) provides a general guideline for describing and explaining **motor behaviour**. The term "motor behaviour" is used when one wants to include motor learning and motor control or distinguish between the two terms. Motor behaviour begins during foetal development, and infants must use perceptual information to adapt movements to their changing bodies. The term "motor learning" is used for movement changes that take place because of practice and experience and are not necessarily linked to age (Adolph & Hoch, 2019).

**Motor control** refers to the nervous system and control of the muscles, which permits skilled and coordinated movements (Goodway et al., 2021; Haywood & Getchell, 2020). As 75% of brain development occurs after birth, physical development stimulates connections between the nerve cells and the brain and is referred to as "motor control". These connections develop the young child's motor skills, socialisation, personal awareness, language, creativity, and problem-solving skills.

**Motor skills** are basic motor activities with a general goal and provide the building blocks for later learning of more complex actions of physical activity and sport in diverse contexts. The interpretation of what constitutes fundamental motor skills depends on various individual perspectives (Newell, 2020). From an educational perspective, motor skills are goals that should be reached by babies at a specific age, as set out by developmental guidelines or milestones, and include stability, locomotor, and manipulation movements, such as sitting, standing, and walking (Haywood & Getchell, 2020; Newell, 2020). When motor skills are mastered, motor development takes place. **Reflexes** and spontaneous movements of the fetus are the forerunner for the motor development of the newborn baby (Newell, 2020) and are supported by Gallahue's (1998) hourglass model of motor development, which is discussed in detail in Section 3.3.1.

### **3.3.1 Gross and fine motor development**

Motor development can be divided into two sub-categories of development that are referred to as "gross and fine motor development", as depicted in Figure 3-2.



**Figure 3-2: Motor development sub-categories.**

Gross motor development and fine motor development are two very important aspects of physical development that increase skills and the performance of the body as development evolves (Brodie, 2018; Haywood & Getchell, 2020; Louw & Louw, 2019). Gross motor development entails the development of big muscles, whereas fine motor development refers to the development of small muscles (Cooper & Harlow, 2018; De Jager & Victor, 2017).

**Fine motor skills** refer to a baby's ability to make small movements with the feet, toes, hands, wrists, fingers, and oral or mouth area (Grow, 2020; Haywood & Getchell, 2020). Fine motor development is crucial for children to eventually (when they reach that stage) be able to tie shoelaces, hold utensils, undo buttons, cut with scissors, pick up small objects, draw, write, and do beading. Eventually, fine motor skills enable young children to grip a pencil correctly when they are ready to start writing, form letters accurately, and eat correctly with eating utensils.

Sufficient fine motor skills will develop through a lot of practice (Clark & Metcalfe, 2002; De Jager, 2017). The fine motor skills of babies include actions such as grasping, feeling, manipulating objects, pushing and pulling light objects, demonstrating some eye-hand coordination, dropping and throwing objects forward, building three-block towers, holding crayons to scribble, holding a cup, and feeding themselves using a spoon (DBE, 2009, 2015; Goodway et al., 2021). It is important to start developing fine motor skills at an early age because fine motor development leads to fundamental actions in a child’s life (Goodway et al., 2021).

**Gross motor skills** refer to the development of big muscle movements. Up to 18 months, gross motor development includes babies demonstrating reflexes, moving their arms and legs freely, strengthening their back and neck muscles, and moving in different directions by sitting up, crawling, standing, and walking (Haywood & Getchell, 2020) (see Section 2.6). Both fine and gross motor skills are important for the cognitive development of children, as they allow children to explore their environment more freely and engage more acceptably and confidently on a social level, which all contribute to their overall holistic development (Grow, 2020; Haywood & Getchell, 2020). If babies do not develop according to the development milestones, which include learning through the senses and motor skills, their development can be hindered at a later stage when they can freely move around and play indoors and outdoors for further holistic development. When children do not meet the norms, it is referred to as “failing to thrive”, whereas when they successfully meet the norms associated with developmental milestones, it is referred to as “thriving” (Rala & Salami, 2019).

Table 3-2 indicates where the Foundation Phase learner may need intervention due to not reaching the fine and gross motor milestones of babies, toddlers, and young children (0-5 years) in the window of opportunity. Please note that the columns are not necessarily related as depicted in the table below and the milestones are not limited to only these examples.

**Table 3-2: Examples of difficulties due to gross and fine motor milestones missed.**

Examples of difficulties due to gross motor milestones missed	Examples of difficulties due to fine motor milestones missed
<b>Child is clumsy</b>	Crossing midline
<b>Low muscle tone</b>	Pencil grip
<b>Poor coordination</b>	Cutting with scissors
<b>Struggles to concentrate due to difficulty with low muscle tone</b>	Difficulty to compose writing
<b>Dislikes physical games and sport</b>	Difficulty with letter spacing

Examples of difficulties due to gross motor milestones missed	Examples of difficulties due to fine motor milestones missed
<b>Hyper- or hypoactive</b>	Poor spelling
	Struggles to complete a task in time
<b>Problems with balance</b>	Poor eye-hand coordination
<b>Fear of heights and jungle gyms</b>	Cannot tie shoelaces
<b>Accident-prone</b>	Cannot button own shirt
<b>Struggles to skip and gallop</b>	Messy eater
<b>Struggles to skip with a rope</b>	Gets tired easily if muscles (fine or gross) are not strong enough to complete a specific task

*Table 3-2 created by the author based on De Jager (2017), Gabbard (2022), and Haywood and Getchell (2020).*

### 3.3.2 Competencies guiding motor development in South Africa

Based on research models such as that of Gallahue’s (1998) hourglass model, milestones and outcomes (referred to as “competencies”) are stipulated in policies such as the NCF (DBE, 2015) and NELDS (DSD, 2007) (see Sections 2.7, 2.8) guiding the early development of babies from birth to four years in South African ECCE centres. Tables 3-3 and 3-4 serve as examples to demonstrate how the DBE explains and unpacks the motor milestones and outcomes in the NCF and NELDS as policy documents. The fourth aim in the NCF is relevant to the motor development of babies from birth to 18 months. The aim is set out as in Table 3-3 when referring to gross motor (large muscle) and fine motor (small muscle) development (DBE, 2015) and includes broad assessment guidelines.

**Table 3-3: The fourth aim in the NCF.**

Aims	Developmental guidelines for babies, toddlers, and young children	Examples of activities for adults and older children to offer while working with babies, toddlers, and young children	Broad assessment guidelines for watching, listening, noting, reporting, discussing with parents, and referring for specialist attention when necessary
<p>4. Children are physically strong and show abilities and interest in physical activities</p>	<p><b>Beginning</b>  <b>Large muscles</b>  <b>Babies</b>            Demonstrates reflexes from birth, such as the startle, walking and stepping, sucking, and grasping reflexes.            Moves arms and legs freely.            Develops and strengthens neck and body muscles for twisting and turning, sitting, and standing.            Uses large muscles to move in different ways, including crawling, dragging, and lifting.            Moves from lying to sitting up.            Moves from sitting to standing.            Walks alone when one hand is held.            Walks, stops, and starts safely.            Walks upstairs with help.</p>	<p><b>Beginning</b>  <b>Large muscle development</b>            Play movement games with babies to exercise and to promote their large muscle development, for example pulling up slowly, praising, and singing rhymes and songs about these movements.            Use songs and rhymes and rhythmic movement with babies from birth and talk to babies while helping them to exercise.            Promote the use of positive traditional and local activities, for example massage, in conjunction with family cultures.            Use gentle movements and soft sounds.            Provide sturdy, stable, and safe equipment that helps babies to move, such as logs, tyres, and wooden boxes.            Provide support to each child in his/her own large muscle needs, for example</p>	<p><b>Observe and discuss with parents their babies, toddlers and young children’s</b>            Reflexes in the newborn (e.g. startle, sucking, grasping).            Ability to move arms, legs, and torso (body).            Ability to twist, sit, and stand.            Ability to crawl, walk, run, balance, skip, gallop, and climb.            Coordination (e.g. eye-hand and eye-foot coordination).            Perceptual abilities (e.g. visual, auditory, and space perception).            Ability to increasingly use small muscles to grasp, pick up, hold, and manipulate.            Using correct pencil grip.            Interest in and enjoyment of physical activities of various types (e.g. games, dance, and movement activities).            Using the senses to interact with the environment and people.</p>

Aims	Developmental guidelines for babies, toddlers, and young children	Examples of activities for adults and older children to offer while working with babies, toddlers, and young children	Broad assessment guidelines for watching, listening, noting, reporting, discussing with parents, and referring for specialist attention when necessary
		helping hands, equipment for moving, and stairs to climb.	
	<p><b>Small muscles</b></p> <p><b>Babies</b></p> <p>Uses small muscles to explore in more detail by grasping, feeling, and manipulating objects.</p> <p>Demonstrates some eye-hand coordination.</p> <p>Pushes and pulls large toys, boxes, and light objects around the floor.</p> <p>Picks up small objects with thumb and index finger.</p> <p>Drops or throws objects forward.</p> <p>Feeds him- or herself with some help.</p> <p>Builds a three-block tower</p> <p>Eats using a spoon, and holds cup in both hands.</p> <p>Holds pencil or crayons in hand to scribble.</p>	<p><b>Small muscle development</b></p> <p>Give many opportunities to each baby each day for manipulating different types of objects, such as feeding, drawing, and building equipment.</p> <p>Encourage babies to grasp, pick up, hold, shake and taste, look at, listen to, smell, and feel various objects.</p> <p>Use suitable safe materials from the environment, such as pebbles, sticks, and plastic containers, for children to manipulate:</p> <ul style="list-style-type: none"> <li>• Identifying their properties (plastic, light, brightly coloured, smooth, etc.)</li> <li>• Pouring and filling</li> <li>• Rolling and moving forwards and backwards</li> <li>• Building, balancing, and stacking</li> </ul> <p>Provide eating utensils for babies who are ready to use these and to help you wash these up when finished.</p> <p>Provide many opportunities to draw using large wax crayons, index fingers,</p>	<p><b>Watch points to record and to act upon for individual babies, toddlers, and young children at physical risk</b></p> <p>Lack of muscle tone (floppy limbs).</p> <p>Sight and hearing problems.</p> <p>Difficulty in using a limb.</p> <p>Difficulty in sitting, crawling, standing, walking, and running.</p> <p>Experience pain when moving.</p>

Aims	Developmental guidelines for babies, toddlers, and young children	Examples of activities for adults and older children to offer while working with babies, toddlers, and young children	Broad assessment guidelines for watching, listening, noting, reporting, discussing with parents, and referring for specialist attention when necessary
		<p>and sticks with water and paint on paper and in sand.</p> <p>Provide opportunities for toddlers to cut with small scissors (help them to hold them correctly and to make the pincer movements required to cut paper).</p> <p>Help babies to hold drawing tools in the correct way (pencil grip).</p> <p>Use activities from the following sections with babies who need and show interest in further physical activities.</p>	

(DBE, 2015)

The aims set out in the NCF document, as indicated in the above table, should be read and utilised together with the NELDS document (DBE, 2009). The DBE (NELDS, 2009) in South Africa first identified six desired results with sub-standards to indicate some competencies that babies, toddlers, and young children (0-4 years of age) should acquire. Examples of activities are provided for practitioners and caregivers to support children in reaching these competencies or milestones. This does not mean that these are the only activities to guide development, but it is a good guideline to implement in ECCE centres to ensure that programmes with activities for babies are developmentally appropriate and implemented in a safe environment. The age validation codes are included in the table below to guide practitioners in the competencies babies should reach. The age validation code A indicates the competency which should be achieved by most healthy children in the age group; B indicates the competencies which are relatively new or close to be achieved, or not yet performed reliably; C indicates that the competencies are likely to be achieved only by the older children in the age category, or those in very favourable environments.

For the purpose of motor development, the focus is on *demonstrating physical and motor abilities and an understanding of a healthy lifestyle; Standard 1: Children demonstrate abilities and interest in physical activities; Age category; Babies: zero to 18 months*, set out in the following table (DBE, 2009).

**Table 3-4: NELDS address Standard 1: Children demonstrate abilities and interest in physical activities.**

Standard 1	Children demonstrate abilities and interest in physical activities		
Age categories	Some competencies	Age validation codes	Some examples of how adults can support the growth and development of babies and young children
<b>Babies: 0-18 months</b>	Demonstrates some eye-hand coordination	B/C	Encourage children to move freely in a safe space
	Picks up small objects with thumb and index finger	B	Provide safe objects for holding, pushing, or squeezing
	May walk alone when one hand is held	B	Allow children to feed themselves
	Drops or throws objects forward	A/B	Get down to the child's level and encourage him/her with smiles and talk to move towards you
	Moves from lying down to sitting up	B	Stand the child on your lap, hold hands, and bounce him/her gently up and down

Standard 1	Children demonstrate abilities and interest in physical activities		
	Feeds self with some help	B	Sit facing the child and ask him/her to push a ball towards you
	Walks, stops, and starts safely	B	Hold the child's hand when walking, running, and climbing, and gradually withdraw this support
	Pushes and pulls large toys, boxes, and light objects around the floor	B	Play stacking games using empty containers or blocks
	Moves from sitting to standing	B	Provide safe objects to pull, crawl into, and push
	Walks upstairs with help	C	Provide food that can be eaten using fingers
	Builds a three-block tower	B	Give child paper and thick crayons
	Eats using a spoon, holds cup in both hands	B	
	Holds pencil or crayons in hand to scribble	B	

(DBE, 2009)

The above tables remind practitioners and caregivers of the direction of babies' development, from gross motor control to fine motor control, from top to bottom, the arms developing faster than the legs, the neck before the core, grasping hands before the baby starts crawling, and pincer grip before balancing toes (De Jager, 2017; Gonzalez et al., 2019; Goodway et al., 2021). This resonates with Gesell's (1925) maturation theory indicating that babies from birth to 16 months first lift their heads, then their shoulders, and then sit up, which indicates that the body develops from head to toe using the head, neck, arms, and legs. After this, babies develop from the middle outwards as they start reaching and then grasping, using their hands, feet, fingers, and toes (Charlesworth, 2017; De Jager, 2017; Goodway et al., 2021; Grow, 2020; Haywood & Getchell, 2020).

For this study, the hourglass model developed by Gallahue (1998) is used to explain motor development as it unfolds and to explain how motor development contributes to the holistic development of babies and forms the foundation for later learning.

### **3.4 Gallahue's hourglass model of motor development**

The developmental stages in the first two years are especially important because they form the building blocks on which subsequent stages in a particular domain depend, and they also facilitate development of skills and milestones in other domains. (Adnams, 2012, p. 242)

Gesell (1925), a psychologist and one of the first to observe the physical, emotional, and social development of babies in the early 20th century, found that all children move through similar stages, which follow a pattern in the way they develop, and that all children grow and develop differently, at their own pace. These similar stages to which Gesell refers are called "developmental milestones" that can assist caregivers, practitioners, and other professionals to determine whether a child's development is in the normal range for his or her age (Dalton, 2005; Gordon & Browne, 2016).

Goodway et al. (2021), just like Gesell (1925), as set out in his maturational theory (Gesell, 1925), believe that children overall reach milestones in similar time frames and go through similar sequences in developmental patterns, as milestones provide benchmarks to ensure early intervention. It is important to understand that milestones are merely an estimated indication of how far development has progressed (Cherry, 2020; Goodway et al., 2021). These development patterns already start straight after conception and are seen as a continuous process after birth. The body develops rapidly from conception to 18 months, and therefore, it is important that babies reach their milestones. When a child does not reach specific milestones, the child may have learning difficulties later in life; hence, it is very important that all ECCE practitioners are equipped with the necessary knowledge and skills to support babies, toddlers, and young children in progressing and reaching all developmental milestones. In addition to the above, Okwany and Ebrahim (2019) underline the importance of physical development as the core of the well-being and development of young children when referring to specific motor milestones that need to be reached.

Gallahue's (1998) hourglass model of motor development is supported by Bronfenbrenner's (1974) theory and Gesell's (1925) maturational theory that both emphasise that a baby's development is influenced by constraining factors in the environment, which include the culture and background of the family that the child is born into, health circumstances, and the diverse parenting styles that different parents adopt. Knowledge of constraining factors in the environment of children in their care is of the utmost importance to practitioners to really understand and support children according to their individual needs because they have the responsibility to develop a healthy educational learning environment for the babies, toddlers, and young children

in their care (Fahey et al., 2006; Gallahue & Donnelly, 2003; Marotz, 2020) (see Sections 1.1, 1.7.1, 1.6.2, 3.4.1).

Furthermore, Gallahue's (1998) hourglass model of motor development is based on Newell's (1986) ecological perspective theory that highlights the importance of interaction among changing constraints such as the **individual**, the **environment**, and the **task**. Newell's theory is aligned with Clark and Metcalfe's (2002) study that highlights that historical events, such as natural disasters, wars, the economy, and social unrest, in one's environment will have an influence on one's children's development and should be taken into account when we look at motor development (Kutner, 2018). Bronfenbrenner's socio-ecological theory focuses primarily on the role that the ecological levels of environmental systems, namely the microsystem, mesosystem, exosystem, and macrosystems, have on human development; the chronosystems interact with all four of these nested systems (Rosa & Tudge, 2013, p. 244). Next, Gallahue's hourglass model is described, followed by Figure 3-4, which depicts the four stages in motor development, namely the reflexive movement phase, the rudimentary movement phase, the fundamental movement phase, and the specialised movement phase.

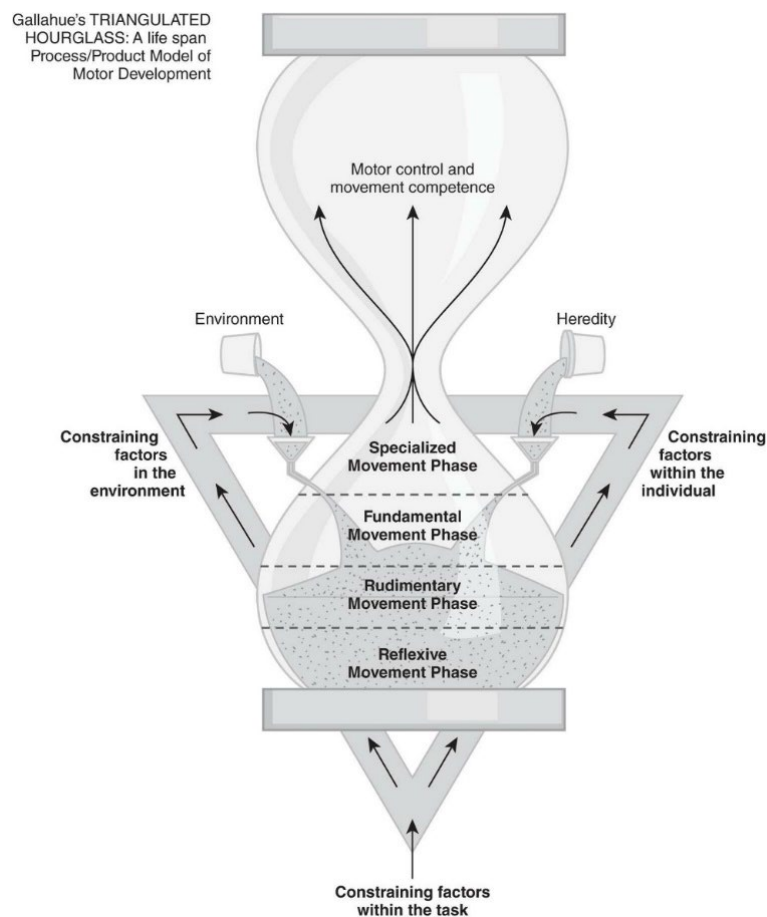
Motor skills change when processes of interaction take place among **individuals'** biological constraints and can be divided into structural and functional constraints. For example, babies are born with hereditary motor patterns that form the basis for motor skills, which appear later in the process of development and are adapted to the environment. Weight and height are examples of structural constraints, while coordination, postural stability, and strength are functional constraints. Therefore, depending on the task, a person can be limited to an extent because of his or her physical strength, flexibility, and balance (Clark, 2007; Gabbard, 2022; Gallahue et al., 2011).

Environmental constraints are constraints in the physical and socio-cultural environment, which include characteristics of the home, the terrain, and the space that a baby has available for movement. The physical **environment**, which should be a stimulus-rich environment, as well as the individual's culture and life experiences (including love, support, and development opportunities) will shape or hinder motor development (Gabbard, 2022).

**Task** constraints are grouped into the categories of task goal, task rule, and materials used for the task. The task goal and task rule relate to the cognitive demands of the activity. If a child does not receive the correct materials (or equipment) to complete a task, they may not be successful (Gabbard, 2022). Goodway et al. (2021) argue that even tasks (development such as a baby's sucking and grasping reflexes) are reshaped by the baby's experiences in this world. Therefore, a stimulus-rich environment is necessary to provide a cycle of perception and action with

consequences leading to perceptual-motor experiences that shape one's motor skills as they change throughout one's life (Gabbard, 2022; Goodway et al., 2021).

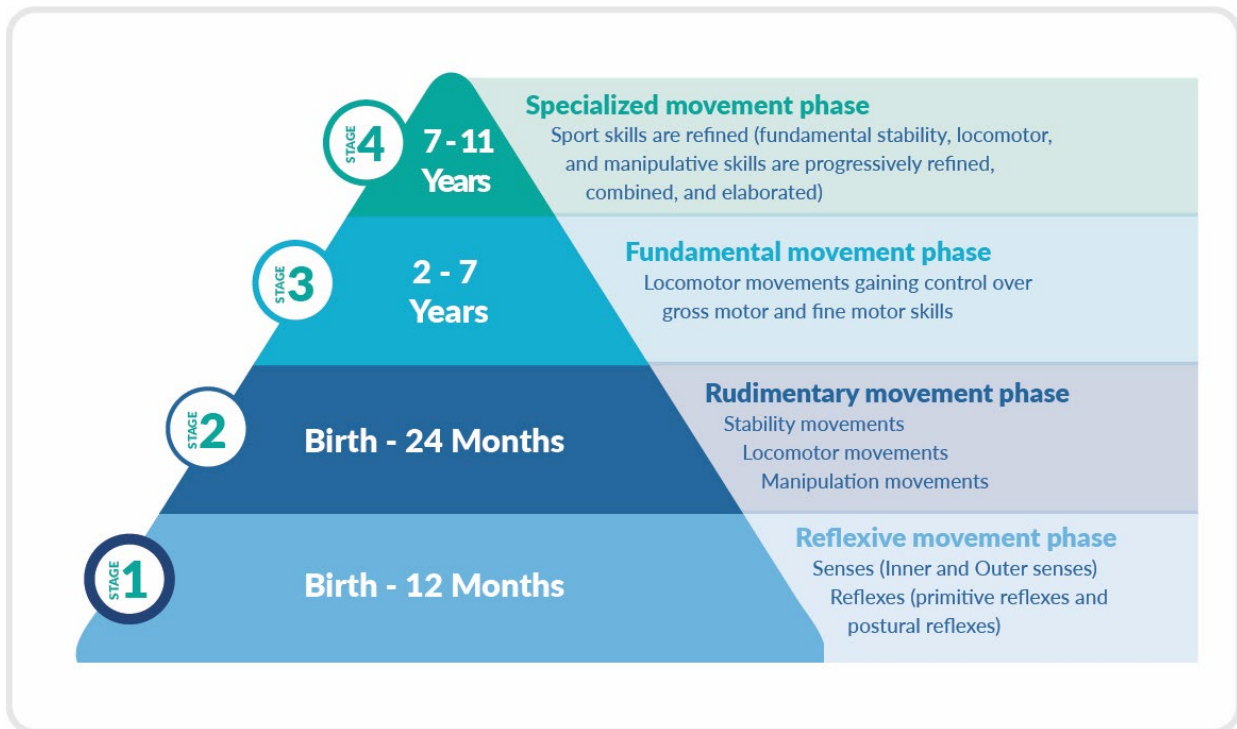
The hourglass in this model clearly shows that motor development starts with the reflexive movement phase and that the environmental and heredity factors have an effect on the process of motor development, which is illustrated by sand pouring into the hourglass. To better understand the figure, it is important to recognise that when we look at the reflexive and rudimentary phases of motor development, the sand fundamentally pours into the hourglass from the hereditary container. These first two phases of developmental sequence are predictable because globally, babies will, for instance, first learn to sit before they walk (Goodway et al., 2021).



**Figure 3-3: Gallahue's triangulated hourglass model.**

(Goodway et al., 2021, p. 226).

There are four stages set out by Gallahue's (1998) hourglass model, namely the reflexive movement phase, the rudimentary movement phase, the fundamental movement phase, and the specialised movement phase. The stages are depicted in Figure 3-3 and discussed separately below.

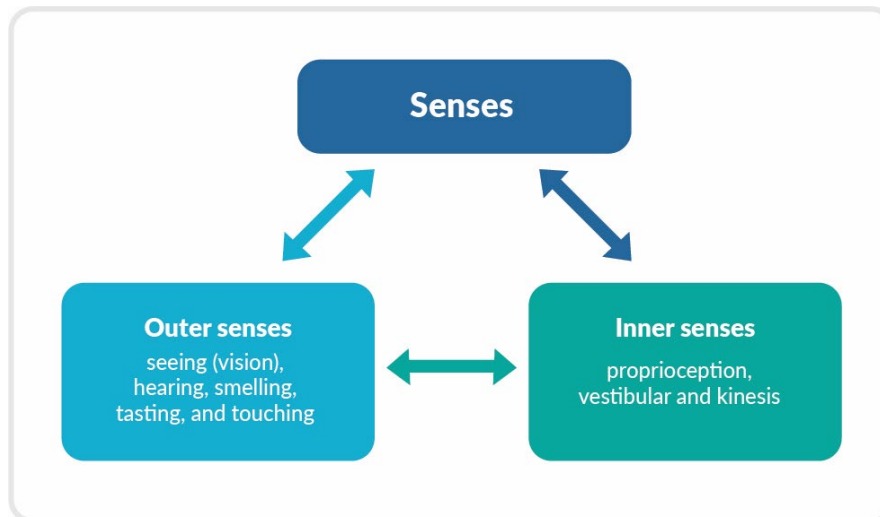


**Figure 3-4: Stages in motor development as set out by Gallahue's (1998) hourglass model.**

*(Adapted for this study from Goodway et al., 2021, p. 207)*

### 3.4.1 Stage 1: Reflexive movement phase

Between 16 and 24 weeks of pregnancy, a mother will start feeling the fetus move. These first involuntary subcortically controlled movements made by a fetus are called reflexes and form the foundation for motor development. Newborn babies rely on their senses to get information about their environment; they constantly use their senses to learn and develop. There are two types of senses – the outer senses and the inner senses (Goodway et al., 2021; Haywood & Getchell, 2020).



**Figure 3-5: Types of senses.**

*Compiled for this study by the author based on information from Goodway et al. (2021), Haywood and Getchell (2020), and De Jager (2017).*

The **outer senses** include seeing (vision), hearing, smelling, tasting, and touching. The **inner senses** include proprioception, vestibular, and kinesis, and cannot be separated as they work together as a team. Next, I discuss the outer senses and then the inner senses, after which I discuss the reflexes to be able to better understand how babies reach their milestones, specifically their motor milestones (De Jager, 2017; Goodway et al., 2021; Haywood & Getchell, 2020).

**Vision** is the sense that is least developed and very limited when a baby is born. A baby’s eyes are only three-quarters the size of an adult’s eye when the baby is born and take many years to develop to the size of an adult’s eye (Witkowska, 2021). In the first 12 months of a baby’s life, the maximum growth of the eyes happens. The growth of the eye slows down by age three, but the eyes continue to develop until puberty and reach adult size by the time the child is 14. Babies cannot see colour when they are born, but only different contrasts of black and white (Chamley, 2005; Witkowska, 2021). By the age of three months, babies can start following objects, and this is when hand-eye coordination commences – when they see something and they try to swipe or reach for things they see.

A baby’s **hearing** is already developed at 28 weeks in the mother’s womb. Babies can hear voices and music when they are still in the mother’s womb, and their hearing is fully developed by the time they are born. Their ears pick up sounds in the environment that may calm or stress them (Chamley, 2005; Witkowska, 2021). They use their hearing to move towards sounds, for example the mother motivating the baby to move in a particular direction.

Newborn babies can distinguish between the **smell** of their mothers and that of someone else. Sense of smell also guides emotional development, as all experiences can be traced back to a specific smell (Chamley, 2005; Witkowska, 2021). The sense of smell helps the baby to find the source of nutrition. Newborns prefer the **taste** of breastmilk, which is sweet (Chamley, 2005; Witkowska, 2021).

The sense of **touch**, just like the other senses, allows people to gather information about the world around them. If babies are not touched and their sense of touch is not developed, they could possibly stop growing, and this would have a negative impact on their physical (motor skills), cognitive, social, and emotional development. Ample touch is very important for babies and young children up to the age of five to ensure optimal development and lays the foundation for relationship building in a child's life (Jenkins et al., 2017; Szalavitz, 2010; Urban Child Institution, 2012).

**Inner senses** start with the development of **proprioception**. The skin, joints, ligaments, and muscles send information to the brain. This way, the body creates a map for the brain to know the body, which is referred to as the "body map". If this map is not available to the body, the brain will not use it. The body map is crucial in motor development, as this map guides the brain to tell the body to use the correct muscles to move the mouth to be able to latch and feed, or to tell the hand to grasp an object or guide the arms and legs to crawl (De Jager, 2017).

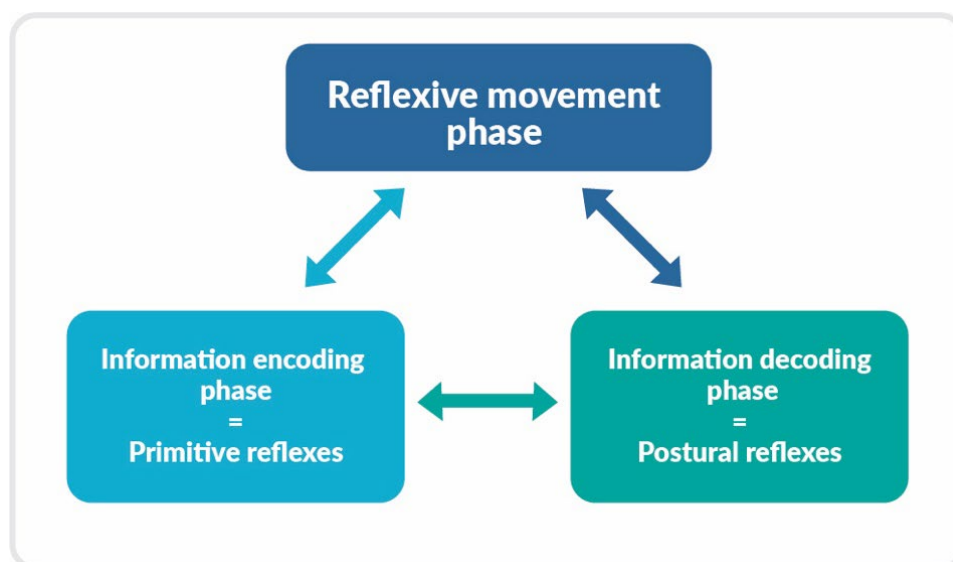
The **vestibular system** puts the body map in context; for example, the baby is lying on the floor on his or her stomach. This system determines the distance or direction of stimulating activities or even danger and then warns the brain to react to danger, for example, to cry or move towards stimulation. In short, the vestibular system influences the baby's sense of his or her own body, just as suggested by the reflexive period of Gallahue's (1998) hourglass model of motor development (Clark & Metcalfe, 2002; De Jager, 2017; Goodway et al., 2021; Harris, 2020).

**Kinesis** refers to the strength that a baby needs for a specific movement, for example to move away from a danger that the vestibular system warned the brain about or to move quickly enough towards a stimulating activity that the vestibular system warned the brain about (De Jager, 2017; Goodway et al., 2021; Harris, 2020).

Newborn babies learn through their inner and outer senses and through their **primitive reflexes** (De Jager, 2017; Haywood & Getchell, 2020). Learning through their primitive reflexes forms part of the reflexive period identified by Gallahue's (1998) hourglass model of motor development. Babies learn through **reflexive movements**, which are movements that guide babies to learn

about their own bodies and environments and include movements that help them to protect themselves.

The reflexive movements are part of the first stage of Gallahue's (1998) hourglass model of motor development. The reflexive movement phase includes babies from birth to four months old (even though reflexes start in the womb) who gather information, seek nourishment, and find protection through movement (Gallahue et al., 2011; Haywood & Getchell, 2020). These involuntary movements or reflexes help the baby to learn more about his or her own body and environment. The reflexive movement phase is divided into the information encoding and information decoding phase (Gallahue et al., 2011; Haywood & Getchell, 2020). Figure 3-5 summarises the reflexive movement phase.



**Figure 3-6: Reflexive movement phase.**

The **information encoding** or information gathering stage, nourishment seeking, and protective responses are referred to as the “**primitive reflexes**” and starts from the first movements of a fetus until a baby is about four months old (Gallahue et al., 2011; Haywood & Getchell, 2020). Babies are born with primitive reflexes that determine movement, help them to survive, and guide them in their first few weeks of life. Primitive reflexes are uncontrolled movements and are part of the development of a baby that gradually disappears and turns into purposeful movements between three and six months of age (Cooper & Harlow, 2018; Gallahue et al., 2011; Haywood & Getchell, 2020).

The **primitive reflexes** include the moro and startle reflex, rooting (search) reflex, sucking reflex, hand-mouth reflex (palmar-mental and palmar-mandibular), palmar grasping, Babinski reflex,

plantar grasping reflex, asymmetrical tonic neck reflex, and symmetrical tonic neck reflex (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020). Next, these primitive reflexes are discussed in short to better understand the information encoding stage of the reflexive movement phase of Gallahue's hourglass model of motor development.

The **moro reflex** starts at 28 weeks in the womb and is noticed up to the age of six months. This reflex is used as a tool for the neurological testing of young babies. The moro reflex will appear when a baby is suddenly moved, when there is a loud noise, or when the baby sneezes or coughs. The moro reflex is when the baby's limbs are suddenly extended and bent, after which they return to the flexed position against the body. The intensity of the moro reflex gradually decreases until it appears to be only a jerking movement in response to stimuli, which are known as the **startle reflex**. The startle reflex is noticed up to the age of 10 months and is similar to the moro reflex, but the limbs are flexed without prior extension (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **rooting reflex**, also known as the "search reflex", guides babies in finding milk to drink when they are hungry. This reflex is stimulated when a baby's cheek or side of the mouth is stroked, which will result in the baby turning his or her head towards the source of stimulation. The rooting reflex is best activated when the baby is hungry, sleeping, or in the feeding position. This reflex usually only lasts for three weeks, after which the baby finds food successfully without failed attempts, but the reflex can last up to 12 months. When the baby's lips, gums, tongue, or palate is stimulated, a sucking motion will be activated to swallow nourishment. This is referred to as the "sucking reflex" (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **sucking reflex** is noticeable from birth but actually starts at 14 weeks in the womb and becomes a voluntary response by the third month. The sucking reflex is important, as babies need to eat to survive and grow; it also helps babies to control their breathing and swallowing, and from two months onwards, babies can control the sucking reflex and sucking will happen more intentionally (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **hand-mouth reflex** includes the palmar-mental reflex and the palmar-mandibular reflex or Babkin reflex (Goodway et al., 2021). The palmar-mental reflex has been observed in newborns but disappears very early after birth. This is when one scratches the base of the baby's palm and the baby's chin muscles contract, which leads to the chin lifting up slightly (Goodway et al., 2021).

The **palmar-mandibular reflex** or Babkin reflex refers to the action of the baby's mouth opening, eyes closing, or flexing the head forward when pressure is applied to the palms of both hands.

This reflex starts decreasing by the time the baby is one month old and is no longer visible by month three (Goodway et al., 2021).

When a baby is born, the hands are usually tightly closed. The **palmar grasping reflex** is one of the first reflexes that can be noticed; it is clear when the palm is stimulated, and the baby wraps his or her tiny fingers around one's finger as if he or she is holding on tight. The palmar grasping reflex develops by 28 weeks in the womb and disappears between the age of four and six months (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **Babinski reflex** is triggered when a newborn is gently stroked on the sole of the foot and the toes extend because of the stroke. This reflex is present from birth up to four months when it evolves into the normal plantar grasping reflex between the age of one and two years, which is also present in older children and people (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **plantar grasping reflex** also involves stimulation of the foot and is best triggered if one places one's thumbs on the ball of a baby's foot. When pressure is applied, the toes will curl around the thumb, grasping the thumb, and therefore, it is called the "plantar grasping reflex". This reflex is like the palmar grasp reflex that involves the hands (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **asymmetrical tonic neck reflex** starts at 35 weeks in the womb and lasts up to six months after birth. This reflex helps the baby to move his or her head from side to side when lying down, the arm will straighten on the side where the head is moving towards, and the other arm will bend. The asymmetrical tonic neck reflex is the start of hand-eye coordination development (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

The **symmetrical tonic neck reflex** normally peaks between six and nine months of age, and this means that the baby is now learning to use his or her upper and lower body independently. This reflex can be triggered from a sitting position – the extension of the head and neck will result in the extension of the arms and flexing of the legs. When the head and neck are flexed, the arms will flex and the legs will extend. The symmetrical tonic neck reflex helps the baby with movement, such as pushing him- or herself up onto the hands and knees. This reflex will disappear by the time the baby starts crawling. All these reflexes eventually become voluntary motor movement, which is grouped under physical development (Gallahue et al., 2011; Goodway et al., 2021; Lewis, 2020).

## Information decoding stage

Around the fourth month, the information decoding (processing) stage of the reflex phase begins. This stage of processing relates to Piaget's (1936, 1950) three stages of sensorimotor development, which include reflexes, primary circular reactions, and secondary circular reactions (Gallahue et al., 2011). During the decoding stage, the sensorimotor activities are replaced with the perceptual-motor ability where uncontrolled movements are now movements that happen in response to stimuli. These are referred to as the "postural reflexes" (Clark, 2007; Clark & Metcalfe, 2002; Gallahue et al., 2011; Haywood & Getchell, 2020). Postural reflexes include labyrinthine righting, optical righting, pull-up, parachute and propping, neck righting, body righting, crawling, stepping, swimming reflexes, and the galant reflex. These postural reflexes are discussed next to better understand the information decoding stage of the reflexive movement phase of Gallahue's (1998) hourglass model of motor development.

The **labyrinthine righting reflex** and the optical righting reflex are triggered when a baby is held in an upright position and tilted forward, backwards, or to the side. The baby will try to move in the opposite direction to which his or her trunk is moved. Goodway et al. (2021) give an example of this reflex as when the baby is tilted forwards, the head will go upwards, in the opposite direction. This reflex supports the baby in aligning the head with the environment. This reflex is noticed between two and four months until vision becomes a crucial factor.

The **optical righting reflex** is like the labyrinthine righting reflex and is noticed for up to 12 months; the difference is that one can notice the baby's eyes following the upward lead of the head. The labyrinthine righting reflex, together with the optical righting reflex, helps a baby to straighten out after birth and supports the baby in achieving an upright head and body posture that promotes forward and backward movements by the age of 12 months (Gallahue et al., 2011; Haywood & Getchell, 2020; Lewis, 2020).

The **pull-up reflex** is an involuntary movement that is activated when babies flex their arms when they try to stay upright when one holds one or both hands. This reflex can be noticed from three months and can last up to 12 months (Haywood & Getchell, 2020).

The **parachute and propping reflexes** are also referred to as the "protective movements" of the baby's limbs, which are activated when babies protect themselves from a shift in position and cannot keep their balance. These reflexes can be a form of startle reflex and are dependent on vision. The parachute reaction is explained as when one holds a baby in a straight position and then suddenly turns him or her forward as if falling; the baby will extend his or her arms as if he or she is trying to stop him- or herself from falling. It also happens when one holds a baby upright

and suddenly drops him or her downward; the arms will extend in an attempt to stop him- or herself from falling. This is known as the “forwards and downward reflex” that can be noticed from four months. From six months, the parachute and propping reflex can be noticed when a baby falls sideways from a sitting position, and from around 10 months, one can notice this reflex when a baby starts falling backwards from a sitting position. This reflex is necessary to experience before a baby learns to walk (Gallahue et al., 2011; Haywood & Getchell, 2020).

The **neck righting reflex** is visible in babies up to six months. This reflex is activated when a baby is placed in a lying down position with the head turned to one side and the rest of the body starts moving in the same direction as the neck is turned (Gallahue et al., 2011; Haywood & Getchell, 2020).

The **body righting reflex** is seen between six and 18 months of age. This reflex forms the basis for the voluntary rolling phase that starts from month five (Gallahue et al., 2011; Haywood & Getchell, 2020).

The **crawling reflex** is noticed from birth up to about four months and does not lead to voluntary crawling, which is noticed at about seven months. This reflex is activated when the baby is lying on his or her stomach and pressure is placed on the sole of one or both feet. This will happen if one places one’s hand against the sole of the baby’s feet or if the baby’s feet are placed against an object (Gallahue et al., 2011; Haywood & Getchell, 2020).

The primary **stepping reflex** lasts between two and five months; a baby’s brain draws from this reflex when he or she eventually starts walking. The stepping reflex is when babies are held close to a surface and their feet start moving and they put one foot in front of the other, even though they cannot walk yet (Gallahue et al., 2011; Haywood & Getchell, 2020; Lewis, 2020).

When babies are placed in or above water, their arms and legs will start moving as if they are swimming. This is the **swimming reflex** and has been noticed in babies as young as 11 days old, but it normally disappears by the fourth month (Gallahue et al., 2011; Haywood & Getchell, 2020).

The **galant reflex** is a reflex that is not obvious; normally, a doctor will test this reflex by holding a baby forward and running his or her fingers down the side of the baby’s back lightly. The baby will then move slightly towards the side that was stroked, which, in turn, stimulates a range of motion in the baby’s hip that prepares him or her for crawling and then walking (Lewis, 2020).

As babies grow, the reflexes start disappearing slowly and babies start getting control over their own bodies (De Jager, 2017; Gallahue et al., 2011; Haywood & Getchell, 2020).

### 3.4.2 Stage 2: Rudimentary movement phase

Motor development is important for laying the foundation for later learning (Newell, 2020), and therefore, it is necessary to mention milestones that should be reached at particular stages of a baby's development. Babies are all unique individuals, with different hereditary backgrounds and experiences, who use movement to gain information about their current environment. These are all factors that influence the rate at which babies will attain rudimentary movement abilities, which means that no two babies will reach the set developmental tasks (milestones) at the same time. These milestones are seen as a baby transitions from reflexive movements and integrated sensory and motor systems to purposeful, controlled movements (Gallahue et al., 2011; Haywood & Getchell, 2020; Newell, 2020). The rudimentary movement phase involves babies from birth up to 24 months (two years) of age and is the first phase where one will notice voluntary movement, which is developmentally determined and characterised by an expected order of appearance in stability movements, locomotor movements, and manipulation movement.

**Stability movements** refer to movement in which some form of balance and posture is required and include gross motor activity (skills) such as gaining control of the head, neck, and trunk muscles. Between birth and five months, a baby's development will include motor control and will develop from the head to the arms, then to the trunk, and lastly, to the legs and feet (Gonzalez et al., 2019). Gaining control over the head and neck can be noticed from birth up to five months, and gaining control over the trunk is noticed between two and eight months of age. These will include activities such as twisting, turning, pushing, pulling, sitting, and standing (Gallahue et al., 2011; Haywood & Getchell, 2020). It is important to let babies lie on their tummies and expose them to different environments to start strengthening the back and neck muscles to develop stability (Goodway et al., 2021; Gallahue et al., 2011; Haywood & Getchell, 2020).

So-called **tummy time** is a very important gross motor activity in a baby's development from birth to six months, as it prepares the baby for sitting, rolling, and crawling (De Jager, 2017; Haywood & Getchell, 2020). Tummy time provides an opportunity for the baby to develop visual motor skills and depth perception, improves neck control, and strengthens the neck muscles as the baby lifts his or her head to look up at things while on the stomach. Back muscles are also strengthened through this action, which also helps with skeleton alignment. Furthermore, tummy time strengthens the arms to prepare the baby for crawling and reaching for objects or toys. While the baby lies on his or her stomach, the hand formation arches, which helps with fine motor development, and the hip muscles are strengthened and increase the mobility in the baby's hips. By the age of six months, strong head control should be noticed, and a baby should be able to

roll from his or her stomach onto the back and back again from left to right, as well as from right to left (De Jager, 2017; Haywood & Getchell, 2020).

At approximately four weeks, the baby will start lifting his or her chin for a few seconds; between six and eight weeks, the baby should be able to keep his or her head in line with his or her body for a while, and by two months, the baby should comfortably hold his or her head up (Cooper & Harlow, 2018; Newell, 2020). Between six weeks and three months old, the baby will start closing his or her hand if an object is placed in the palm of the hand; at this point, babies are discovering their hands and start putting their fingers in their mouths, feeling different materials and textures

Between two and three months of age, the baby can now not only hold his or her head up for a while whilst lying on his or her stomach but will start pushing up with the arms (De Jager, 2017; Newell 2020). By three months, the baby will start rolling over and kicking the legs while on his or her back (Cooper & Harlow, 2018). The three- to six-month-old kicks his or her legs when lying on the stomach or back, which helps to develop the muscles in the legs, which are also necessary for crawling. According to the *Road to Health Booklet* (DoH, 2018) provided to parents in South Africa when a baby is born (see Section 3.2), babies should be able to grasp toys in both hands and lift their heads during tummy time. To stimulate development in this age category, a stimulating and safe environment should be created, and tummy time should be on the floor or a flat hard and safe surface.

Babies will first gain control of the upper trunk by approximately four months when they start **sitting** in a supported position. From **four months to seven months**, they will gradually start gaining control in the lower trunk to **sit unsupported**. The *Road to Health Booklet* (DoH, 2018) shows that babies should be sitting without support by nine months, and both Cooper and Harlow (2018) and Newell (2020) support this by indicating that babies should start sitting without support between five and eight months. During this time of gaining control over their trunks, babies will also gain control of their arms and hands and should be able to move objects from one hand to the other.

When a baby reaches the development stage **between six and 12 months**, a lot of stimulation and development should take place. Their bones and muscles grow rapidly in this stage, and when a baby is 12 months old, his or her brain is a third of the size of a grown person's brain (Newell, 2020).

Between seven and 10 months, babies start **standing up** against objects, supporting themselves, and start moving around between furniture until they can stand unsupported between the ages of 11 and 12 months. Between 11 and 13, months they start getting up into a **standing** position from

their knees while their arms pull down, and now they do not need support anymore, which prepares them for locomotor movements. The average age for a baby standing alone without support is 11 months, and this is also the start of walking (Cooper & Harlow, 2018; Haywood & Getchell, 2020; Newell, 2020).

In search for stability, babies will reach the developmental milestone of standing, which guides them towards upright locomotion, also known as “walking”, which is a major milestone in the rudimentary movement phase of stability (Gallahue et al., 2011; Haywood & Getchell, 2020).

**Locomotor movements** are referred to as movement in the environment that involves a change in the location of the body, which includes moving one’s own body from one point to the next, such as scooting, creeping, crawling, walking, hopping, jumping, or skipping (Gallahue et al., 2011; Haywood & Getchell, 2020). Locomotor development relies on the development of stability; therefore, it is crucial that babies go through the developmental phase of mastering stability to be able to move around freely.

The first attempts of locomotor movements start with crawling movements, which means that the baby gains control of the muscles in the head, neck, and trunk. An attempt to start crawling can be noticed from as early as four months, but normally from six months of age. This is noticed when babies start lifting their necks and backs, reach for an object in front of them and move around on their stomachs to reach the object. The first attempt may seem more like a sliding than a crawling movement.

Babies normally crawl, which is referred to as “creeping”, on their hands and knees between nine and 10 months. Creeping movements develop from crawling when a baby lifts his or her stomach from the floor and uses the hands and knees to move forward. The ability to crawl means that babies are in the process of progressing towards undependability as they can start moving around by themselves (Cooper & Harlow, 2018; Newell, 2020).

The next locomotor movement is when a baby starts walking. This means that the baby has reached a level of stability that enables the baby to control his or her body when in a standing position. Walking with assistance and holding on to furniture or walking holding someone’s hand normally starts between nine and 11 months (Cooper & Harlow, 2018; Newell, 2020). Walking independently and changing direction without stopping take place between 10 and 15 months and can be influenced by individual and environmental factors (De Jager, 2017; Newell, 2020). Individual factors refer to the elasticity of the muscles, bones and joints, and energy delivered to the limbs, whereas environmental factors can include support from caregivers and the availability of furniture to hold on to. Goodway et al. (2021) explain that babies will start walking sideways, backwards, and on their toes soon after independent walking is achieved. Walking steers babies

towards more independent moving around, and by the age of 18 months, they should be able to kick and throw balls, run, and climb stairs with assistance.

The **manipulation movement** tasks are tasks that involve gross and fine motor movements. The gross motor movements involved in the manipulation movement tasks are throwing, catching, kicking, and striking objects, which will only be noticed in the fundamental movement phase of Gallahue's (1998) hourglass model of motor development (see Section 3.4). The fine motor movements involved in the manipulation movement tasks involve complex use of muscles in the hands and wrists. These movements include reaching, grasping, and releasing during the rudimentary movement phase, and eventually, in the fundamental movement phase, it will also include movements such as cutting with scissors and sewing (Gallahue et al., 2011; Haywood & Getchell, 2020). Therefore, we only discuss reaching, grasping, and releasing as manipulation movements in the rudimentary phase.

Babies start to noticeably try to **reach** objects at about four months of age, and by the end of the fifth month, they are able to reach for and make contact with an object in the environment. The speed of movement and the infant's posture are factors that can influence the mastering of the reaching movement.

**Grasping** is reflexive up to four months of age and happens when a baby's hand tightens when an object is placed in the palm of the hand. Before voluntary grasping can take place, reaching for an object should first be mastered for the baby to be able to grasp something on purpose. From approximately five months, a baby will be able to reach and touch an object and grasp the object with his or her entire hand but still cannot grasp tightly. By seven months, the palm and fingers are coordinated, but the thumb and fingers are still not used effectively at this stage. Only by nine months does the baby start using the forefinger to grasp, and by 10 months reaching and grasping can be noticed as one coordinated movement. The thumb and forefingers are effectively used at about 12 months when babies can pick up small objects with their thumb and index fingers. The environmental factors of the object, such as the size, weight, or shape of the object, will influence the quality of the grasping movement (Cooper & Harlow, 2018; Gallahue et al., 2011; Haywood & Getchell, 2020).

By six months old, babies have mastered reaching and grasping an object but are not yet able to command the flexor muscle of the fingers to relax the grip when they want to. Examples of releasing an object are when a baby holds a rattle and wants to put it down, turns a page of a book, builds a block tower, or fills a container with objects. By 14 months, the baby will master releasing an object, and by 18 months, the baby will show the ability to coordinate and control the reaching, grasping, and releasing movements, which are known as the "manipulation

movements” within the rudimentary phase of Gallahue’s hourglass model of motor development (Gallahue et al., 2011; Haywood & Getchell, 2020). Furthermore, babies should be able to feed themselves by the age of 18 months using at least their fingers (DBE, 2009, 2015).

There is a reflex inhibition stage in the rudimentary movement phase that continues from birth up to approximately 12 months. In this stage, the development of the cortex and the reduction of certain environmental constraints cause several reflexes to be hindered and then slowly disappear. Primitive and postural reflexes (automatic movements) are replaced by voluntary movement, which is, at first, poorly differentiated and integrated because the neuro-motor apparatus (nerve and muscle development) of the baby is still at the rudimentary stage of development. Even though movements are purposeful when babies are trying to touch an object, it will still appear as if the movement lacks control, as they will use the entire hand, wrist, arm, shoulder, and even trunk to make contact.

Between the age of 12 and 24 months, the pre-control stage starts, and movements are mostly performed with control, proficiency, and precision. The resources and constraints found within the biology of individuals, the requirements of the movement task, and the learning environment have an influence on the development of the baby. **Rudimentary movement** abilities are normally not genetically determined, and it has been found that early stimulation in this phase has an influence on later development (Gallahue et al., 2012). The goal of this phase is to achieve independent function. Two examples are babies feeding themselves and moving around in their gravitational environment to, for example, find sources of nourishment (Clark, 2007; Clark & Metcalfe, 2002). After mastering the locomotor, stability, and manipulative movements in the rudimentary phase, the baby is now involved in the process of manipulating objects to learn more about his or her own environment. These movements are fundamental to the next phase, which is the fundamental movement phase.

### **3.4.3 Stage 3: Fundamental movement phase**

Even though the fundamental movement phase is not the focus of the study, it is worth mentioning to understand why motor development from birth is so important. The fundamental movement phase includes children from two years up to seven years and involves getting control over their gross motor and fine motor skills. This phase has separate but often overlapping stages, according to Gallahue et al. (2012); therefore, it is important for motor development to be stimulated from birth. The initial stage is regarded as the emerging elementary stage followed by the proficient stage.

The following are examples of fundamental motor skills that are an important part of preparing a child for context-specific motor skills and should be developed in the early years (Clark, 2007; Clark & Metcalfe, 2002): **locomotor activities**, such as running, jumping, hopping, and skipping; manipulative activities, such as throwing and catching; and stability activities, such as walking on a beam and balancing on one foot, as well as fine motor skills. The degree to which these fundamental movement skills of children develop will depend on the conditions of the environment that pose an opportunity for practice, encouragement, and instruction in a specific context that fosters learning (Gallahue et al., 2012). Failing to provide such opportunities will make it difficult for children to achieve competence in fundamental movement skills and will hinder further utilisation and development in the specialised movement phase (sport skills).

#### **3.4.4 Stage 4: Specialised movement phase**

The specialised movement phase involves children aged **seven to 11 years** and is also regarded as the phase where sport skills are refined and maximised. In this phase, the fundamental stability, locomotor, and manipulative skills are progressively refined, combined, and elaborated upon for use in increasingly demanding situations, such as for daily living, recreation, and sporting pursuits (Goodway et al., 2021). Even though I will not go into this phase in depth (because it is not the focus of this study), it is still important to mention to understand how motor development evolves. In this phase, we refer to three stages, namely the transitional stage, the application stage, and the lifelong utilisation stage.

### **3.5 Summary**

This chapter underlined the importance of practitioners being equipped with the necessary knowledge and skills to stimulate babies. Van der Berg and Spaul (2020) have found that almost one million children under the age of six in South Africa live in a home where there are no other caregivers than working parents. In 2020, when the COVID-19 pandemic was declared a national disaster in South Africa, ECD centres were closed and many children were left alone at home without adult supervision, as some parents still had to work because of the industry in which they were employed. Due to the closure of ECD centres, as set out by government regulations, children's holistic development was compromised. Statistics South Africa (2021) states that by 7 August 2020, 41% of ECD school days were lost since the *Government Gazette* No. 43381 published on 1 June 2020 had stated that ECD centres could only open four months after the COVID regulations were promulgated on 6 July 2020 and only if they were able to comply to COVID-19 regulations. These regulations included sanitising equipment and hands and adhering to social distancing, which was a challenge due to limited space in ECD centres and practitioners letting babies play freely.

These are all environmental factors that have a detrimental effect on young children's development (Van der Berg & Spaul, 2020). In the South African context, this would also mean that the stimulation of babies' motor development would assume a secondary position.

### **3.6 Conclusion**

In this chapter, I explained motor development, which is a component of physical development. The holistic development of babies, which includes developmental areas such as physical, emotional, social, and cognitive development, was addressed. Gallahue's (1998) hourglass model of motor development, based on Newell's (1986) ecological perspective theory that relates to Bronfenbrenner's ecological theory, was discussed. Gallahue's hourglass model provides a general guideline for describing and explaining motor development. The importance of interaction among changing constraints, such as the individual, the environment, and the task, that have an influence on changes in one's motor abilities, was also discussed. Children learn through movement – by playing and exploring – therefore, it is important for practitioners to have knowledge about and skills in creating a clean and safe environment for children to move around and not leave them in one place for long periods of time.

In Chapter 4, I will focus on the theories underpinning this study that relate to the ALG's journey of transforming while collaboratively learning about promoting the motor development of babies.

## CHAPTER 4 THEORIES UNDERPINNING THIS STUDY

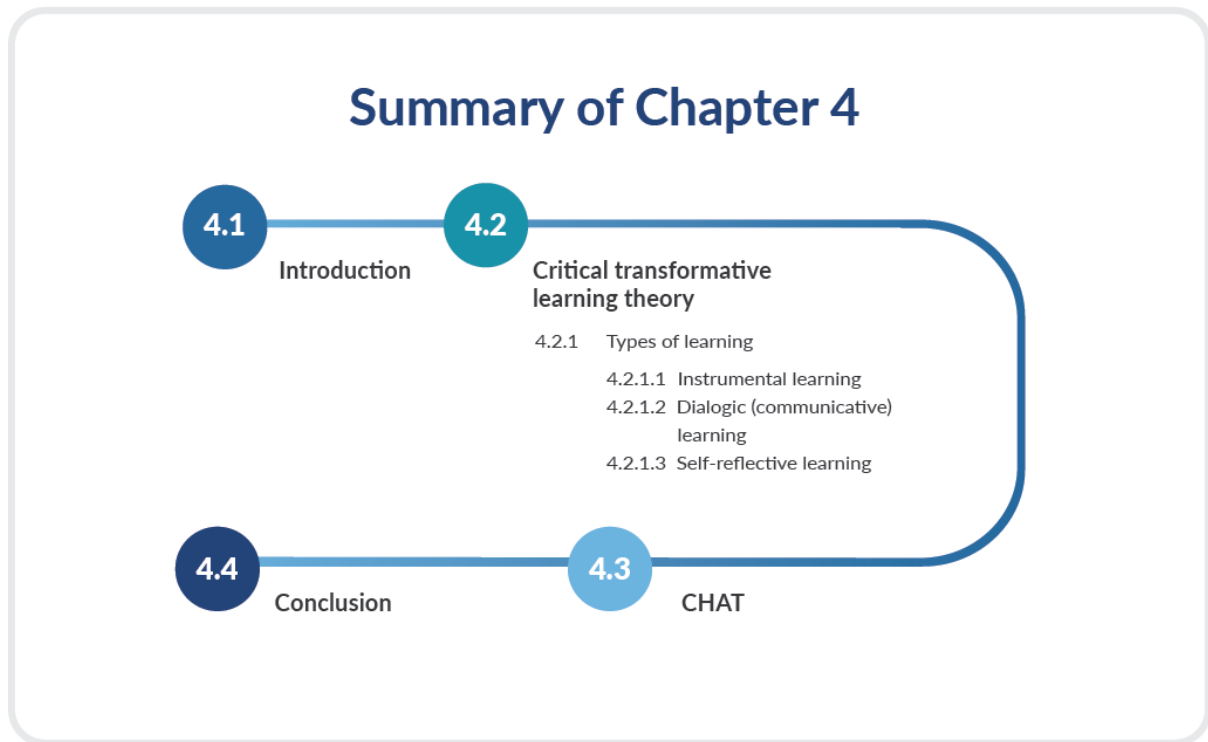


Figure 4-1: Chapter summary.

### 4.1 Introduction

Chapter 3 focused on the motor development of babies, which included Gallahue's (1998) hourglass model of motor development to better understand motor development as part of the holistic development of babies. In this chapter, we focus on the theories underpinning this study. The outlay of the chapter is depicted in Figure 4-1.

Although many theories justify the way people learn, for this study, I chose theories that both correspond with the basic principles of PALAR (see Wood, 2020) and support the development of agency in the co-researchers of this study in promoting the motor development of babies in ECCE centres. These theories comprise the critical transformative learning theory, a combination of the critical and transformative theory of Mezirow (1997) and CHAT (Engeström, 2001) (see Sections 1.6.2, 4.1, 4.3). Critical transformative learning plays a central role in adult education and is seen as a shift in how we know and understand ourselves while bringing about change in what we know and how we do things (Mezirow, 2000) (see Sections 1.6.3, 4.2, 5.4.1). This resonates with the PALAR paradigm, which highlights that sustainable learning and development should be transformative in nature at the systematic and structural levels (Wood, 2019). The

second theory to be discussed in this chapter is CHAT (see Sections 1.6.2, 4.1, 4.3). CHAT is a practice-based approach that provides a framework to analyse professional practice while better understanding what people think and feel concerning what they do. The critical transformative learning theory is discussed first, followed by a discussion of CHAT.

## **4.2 Critical transformative learning theory**

The critical transformative theory was created by Mezirow in 1978, and since then, many changes have taken place in the theory, but to this day, it continues to play a decisive role in understanding adult learning (Taylor & Laros, 2014). Mezirow's (1978) initial theory on transformative learning was influenced and informed by the work of Freire and Kuhn, and became a paradigm in answering unanswered questions on adult learning. Mezirow later used the work of Habermas to develop and refine the critical theory of adult learning (Kitchenbaum, 2008). The theory states that for transformation to take place, an interactive learning process is necessary to be able to realise autonomy and higher levels of cognitive and moral perception (Pegg et al., 2007).

The transformative learning theory describes the way adults learn and why they learn the way they do (Kitchenham, 2008). Mezirow (2011) explains transformative learning as a process that brings about change in an adult's frame of mind, which resonates with Freire (1970). Furthermore, Mezirow (2018) describes transformative learning as a process of adult learning in which the goal is to help adults learn how to become critical thinkers who act on their values, interests, and purposes instead of acting on those of others. New information is seen as a new resource in adult learning, and educational interventions are seen as crucial to acquiring understanding and the skills for critical transformative learning (Mezirow, 2018). The transformative learning theory can also be described as the rejuvenation of learners' cognition while engaging in critical reflection and discovering new perspectives by questioning their own beliefs, assumptions, and values. In this study, the critical theory and the transformative theory are combined as the critical transformative theory because these two theories are closely related (Zhu & Li, 2019).

With the above in mind, the focus of transformative learning theory is based on three characteristics relating to the PALAR design, as summarised in Table 4-1. These characteristics are critical thinking, critical reflection, and building learning partnerships to collaboratively improve adult development (Calleja, 2014; Margot-Gattin et al., 2018; Mezirow, 2011; Zuber-Skerritt, 2011).

**Table 4-1: PALAR principles relating to the critical transformative learning theory.**

PALAR	Critical transformative learning theory
<b>Critical thinking</b>	Discovering new perspectives while reflecting on own values, interests, and purpose
<b>Critical reflection</b>	Reflection leads to an understanding of one's own experiences while considering external factors that will affect one's own experiences
<b>Building learning partnerships</b>	Learning from other people's experiences when working collaboratively towards the same goal

*Table created from information provided by Calleja (2014), Margot-Gattin et al. (2018), Mezirow (2011), and Zuber-Skerritt (2011).*

In the case of this study, **critical reflection** means that we, as participants who acted as co-researchers in this research journey, did not only look at our own circumstances but also at external factors such as people influencing the way we think and view the world by considering different policies that expanded our knowledge of motor development and the context in which motor development occurs (see Sutherland, 2013). Through critical reflection, we could transform our frames of reference with regard to our understanding of the world around us and our own beliefs and practice, as suggested by Mezirow (1997). Critical reflection is a process that helped us to set goals while considering previous experiences from different perspectives. It further guided us to set realistic sustainable goals informed by what we had learnt through past experiences while considering real-life influences (see Sutherland, 2013). As co-researchers, we realised that to be able to do the best we could, in the context in which we found ourselves, we must reflect on the work we do in practice.

Working in **collaboration** with co-researchers in an ALG brought about change because we learnt from one another by reflecting on different aspects derived during our data generation activities. The process of critically reflecting as a team meant that there should be specific guidelines leading the team to collaboratively reach the mutual goal.

Learning is a transformative, collaborative, interactive, and reflective process that enhances the critical transformative learning of co-researchers in an ALG (Keen & Woods, 2016). In this study, the ALG discussed the mutual problem collaboratively, using critical thinking and reflecting on ideas, beliefs, and attitudes within the context of the research. While respectfully listening to and learning from one another, we, as co-researchers, collaboratively aimed to find a workable and sustainable solution to the mutual problem. We further intended to bring about change and transformation in the way we thought and felt professionally and personally.

Kemmis et al. (2014) recommend a few questions that can guide the process of collaboratively reflecting and gaining new knowledge to achieve a mutual goal. These questions are aligned with the answers related to this study in Table 4-2.

**Table 4-2: Questions guiding transformative learning.**

Recommended questions by Kemmis et al. (2014, p. 34-36)	Answers aligned with this study
<b><i>What is our focus? Why is this our focus?</i></b>	Supporting practitioners in under-resourced ECCE centres in informal settlements to promote motor development A lack of professional knowledge and training in motor development A lack of resources
<b><i>How will we achieve this focus?</i></b>	Working in collaboration
<b><i>How will we monitor our achievements?</i></b>	By building strong relationships, collaborative journals, and informal discussions
<b><i>Who do we need to involve in achieving our focus and why?</i></b>	Practitioners working with babies align practice and theory, praxis
<b><i>What is the timeline to achieve our aim? Where will this take place and why?</i></b>	When we have gathered enough context-related motor development activities in supporting practitioners to practically implement these in the ECCE playroom

It is important to understand that when a plan has been put in place with a mutual goal, the ALG should collaboratively ask whether the plan has brought about a productive and sustainable outcome (Kemmis et al., 2014). The co-researchers in this study were encouraged to reflect on what they did in their environment to stimulate babies. They also had to collaboratively discuss and reflect on their knowledge of guidelines available to support one another in stimulating the babies in their care. Collaborative critical thinking led to the ALG developing a sustainable, practical, stimulus-rich EI, which enhanced their transformation and led them to think differently about stimulating motor development and realising the importance thereof.

Transformative learning brings about a paradigm shift that results in professional development and represents the core of adult development (Mezirow, 1996). This resonates with andragogy, a theory on adult learning developed by Knowles (1984), which was originally based on assumptions that included self-concept, readiness to learn, orientation to learn, motivation to learn, the need to know, and an individual's experiences. In adult learning, a process of

developing critical awareness of a person's reality through action and reflection takes place, and through action, the reality can be changed. This way, people can create meaning in their reality and find their voice in the context in which they find themselves (Calleja, 2014). When reflecting on knowledge in participatory research, the practical, epistemological, and ontological outcomes will be influenced (Wood, 2019; Zuber-Skerritt, 2011). In other words, the outcome of the problem will be influenced by where transformation takes place in how the members of the ALG think about creating knowledge, how they interact with one another, and how they see their position in the world or in the group in which they find themselves.

Even though andragogy is not the theory under discussion, there are six principles of andragogy highlighted by Knowles et al. (2015) that underpin the transformative learning theory, which is developed and strengthened in PALAR for transformation to take place. These principles are as follows (Knowles et al., 2015):

- Adult learners need to understand how important current and future **knowledge** is; therefore, in this study, we first tried to establish what knowledge the co-researchers had on promoting the motor development of babies.
- Adults need to apply the knowledge they have gained because of their practical orientation; therefore, we gained knowledge on guidelines of motor development activities, and then the individuals tried these practically.
- It is important that adults are self-directed learners and can function independently. In this study, even though we worked collaboratively, the co-researchers had to take the activities that we had created together to their playrooms, and then they had to critically reflect on the practicality thereof in their context. Their independent reflections would then be shared collaboratively in the ALG.
- Individuals' experiences are normally built on their background, including political, social, and educational knowledge, values, and beliefs (Kitchenham, 2008). The personal experience of an adult can be applied to the learning process.
- The readiness of individuals to learn contributes to the development of what they are learning.
- Adults are internally motivated to learn. In this study, we supported one another in challenging times and contributed to internal motivation to use the opportunity to gain knowledge and grow both personally and professionally.

As we, as co-researchers, gained confidence in our own ability to contribute to this study, we realised that we were capable of much more than we had given ourselves credit for when we first met. After realising and understanding how important our prior experiences were for creating new experiences, we eagerly collaborated in this study. Our self-directedness in the ALG improved as

we gained knowledge on the topic of the motor development of babies. Initially, we were hesitant to share our knowledge of motor development because we were unsure of the value thereof, but in time, we realised that our contextual and practical learning experiences contributed to the success of this study in creating activities captured in the EI. As the cycles unfolded, our knowledge and confidence grew, together with our internal motivation, leading to sustainable transformative learning within the ALG.

#### **4.2.1 Types of learning**

Mezirow's (1997) theory on transformative learning was revised. Kitchenham (2008) explains that there are three types of learning that transformative learning focuses on, namely instrumental learning, dialogic (communicative) learning, and self-reflective learning.

##### **4.2.1.1 Instrumental learning**

Instrumental learning is task-orientated, focuses on solving a problem in practice, and motivates learning. When referring to **instrumental learning**, an adult **critically reflects** on the expectations of the problem-solving task, in which we play a part to improve practice. Critical reflection should act on the content, the process, or the reasoning of the problem to determine the expectations of how a problem is defined, using narrative critical reflections to evaluate the soundness of knowledge and skills, asking oneself what information is important to know (prior knowledge) to be able to solve the problem at hand (Roessger, 2014). These include questions such as the following:

- Is information missing? If so, what information is missing?
- What strategies can I use to be more effective in solving the current problem?
- Why is it important to solve this problem?

These questions guide **critical reflection** and guide adults in improving their performance because adults as participants will adapt or modify their skills and knowledge to solve a problem and improve practice (Roessger, 2014).

Instrumental learning further includes reflecting on the environment or the context in which one finds oneself. Questions on how one learns about something and explains or explores a situation led us, as the ALG, in this study to ask ourselves the following questions:

- How can we empower ourselves and other practitioners who work with babies?
- How can we improve the way we stimulate the motor development of babies?
- What can we collaboratively do to accomplish the main objective?

- Why do we need to improve our knowledge and skills in stimulating the motor development of babies?

In the research project, these critical reflective questions guided us in developing guidelines to stimulate the motor development of babies in informal settlement ECCE centres. Furthermore, these questions enabled us, as co-researchers, to reflect on what we were doing and what we could do to support other practitioners in a similar context.

#### **4.2.1.2 Dialogic (communicative) learning**

The second type of learning highlighted by Mezirow's (1997) theory is communicative learning or dialogic learning (Kitchenham, 2008), in which the goal is for at least two people to reach a common understanding within the ALG (Mezirow, 1997). Dialogic learning focuses on the attempt to understand other people, focuses on communicating their feelings, needs, and desires with written and verbal tools, and highlights equality when reflecting on themselves, collaborative goals, and guiding policies. Communication within an ALG should always take place in a safe space where people feel free to share their thoughts and ideas.

The ALG got together and discussed the problem at hand, and while reflecting on our knowledge, we gained new knowledge, which, in turn, led us to solutions to the problem at hand. Through communication, people are given a voice, and even though we, as the co-researchers, felt overwhelmed by all the challenges we experienced, we were involved in the ALG and we knew we could make a difference in the community. Within the ALG, not only did we gain knowledge that brought meaning to our world, but also our views and beliefs on the importance of the motor development of babies changed while working collaboratively towards the same goal.

#### **4.2.1.3 Self-reflective learning**

Instrumental learning and dialogic learning are informed and supported by reflective learning. Self-reflective learning is grounded in critical reflection and will guide an individual in what works well and what to use to plan the next action, which leads to an individual gaining confidence and competence (Kitchenham, 2008). The goal of self-reflective learning in this study was to create awareness within co-researchers' patterns of beliefs, educational knowledge, and values (Kitchenham, 2008). Self-reflective learning guided us, as individuals, to challenge our way of thinking and acting to professionally transform and better understand our role in promoting the motor development of babies.

Three learning processes within each learning type take place simultaneously, as depicted in Table 4-3 below.

**Table 4-3: Learning processes.**

Three learning processes	What happens in the process?
<b>Learning within current meaning patterns</b>	The process starts with the individual working with current meaning, revising and expanding on the current patterns.
<b>Learning new meaning patterns</b>	Acquiring a new meaning pattern that is in line with the existing patterns of the individual's meaning perspectives.
<b>Learning through meaningful information</b>	The last process that the types of learning must go through is when the individual encounters a problem that cannot be resolved through current or new meaning patterns and the solution to the problem comes from rethinking the problem.

*Table created by taking information from Kitchenham (2008, p. 111).*

Critical transformative learning describes the change that takes place in the process of creating new knowledge, as well as change in the way someone thinks, believes, and makes assumptions. This resonates with the principles of CHAT (see Section 1.6.2, 4.3), as well as the principles of PALAR (see Section 5.4.5), which are the methodology of this study (Hoggan, 2016; Margot-Gattin et al., 2018; Wood, 2019).

Transformative learning is an important element in the success of action research. To successfully implement transformative learning within PALAR, we needed to plan and brainstorm ideas and challenge ourselves on the “correct” way of doing things and ask ourselves if there was only one “correct” way. The PALAR design also enables and encourages creativity, self-directed learning, and progression in critical thinking skills, equipping the co-researchers in the ALG to create practical, context-rich knowledge and develop, not only personally but also professionally, while transforming. The individual should be receptive to making mistakes and see these as a process of learning and not failing. Furthermore, the individual should look at various solutions to the problem, reflect on the process, and ask not only what does not work and why it does not work, but also, most importantly, what does work.

Through a PALAR process in this study, transformative learning was achieved. The transformation process helped us, as co-researchers, to critically reflect on our prior knowledge and existing practice to improve our current practice where necessary (Zuber-Skerritt, 2011).

Throughout the study, we, as co-researchers in the ALG, had the opportunity to bring our knowledge and practice (old and new) to the meetings and share and reflect collaboratively to

learn from one another and improve practice. We learnt to interact and critically reflect on one another's views. Moreover, we learnt to respect one another's experiences shaped by our individual views and beliefs, which also enhanced relationships within the ALG. We learnt to give constructive feedback without criticising one another, and we constantly worked on a plan to best suit the research purpose and the ALG. As co-researchers, we transformed as we gained knowledge of the importance of motor development and of a practical way of promoting and implementing the motor development of babies in ECCE centres.

### 4.3 CHAT

In this study, the ECCE practitioners at first saw me, the researcher facilitator and university lecturer, as a professional. However, we were all equally important in the research process; therefore, we followed the democratic principles of PALAR where we viewed all as equally important partners in the research process. We viewed and shaped our perceptions of people upon our own cultural values, beliefs, and resources, which resonates with Mezirow's (1997) transformative theory and relates to the principles of CHAT.

The term "cultural-historical activity theory" or CHAT was coined by Michale Cole and popularised by Yrjö Engeström in the 1990s. CHAT is a theoretical framework that assists researchers in understanding the relationship between what people think and feel (human mind) and what people do (activity). Engeström's CHAT was based on Vygotsky's activity theory because Vygotsky believed that cognitive processes developed due to the influence of external factors. This is a practice-based approach that provides a framework to analyse professional practice. CHAT enables researchers to analyse complex and evolving professional practices for practitioners to engage in reflective participatory research (Nussbaumer, 2012).

In CHAT, the term "**historical**" is used together with "**culture**" to indicate that cultures are grounded in histories and evolve over time; therefore, an analysis of what people do at any given time must be viewed considering the historical trajectories in which actions take place (Batiibwe, 2019). In the **activity system**, people do not perform activities in isolation, and they are influenced by other role players in their own community of action (the ALG of this study). "**Activity**" refers to what people do together and is modified by cultural and historical circumstances, which relates to this study because the activities that were collaboratively developed were modified to support practitioners specifically in informal settlements. "**Theory**" is used to represent a conceptual framework for understanding human activity (Brink & Peterson, 2020).

CHAT (Engeström, 2001) is centred on three core ideas that relate to the PALAR design, as summarised in Table 4-4.

**Table 4-4: CHAT core ideas relating to the PALAR design.**

CHAT	PALAR (see Section 5.4.5)
Humans act collectively, learn by doing, and communicate in and via their actions.	Collaboration among the co-researchers throughout all cycles of the study led us, as an ALG, to collaboratively develop a sustainable EI to support practitioners in promoting the motor development of babies.
Humans make, employ, and adapt tools of all kinds to learn and communicate.	Communication among co-researchers is central to the learning process, and co-researchers communicate in and via actions adapting to the context.
Community (activity system) is central to the process of making and interpreting meaning in the group – to all forms of learning, communication, and action.	PALAR follows a people-centred approach where people work towards the same goal, respecting and recognising the knowledge, skills, and contribution of all.

*Table compiled based on information gathered from Daniels et al. (2010), Dirkx (2012), Engeström (2001), Engeström and Pyörälä (2021), and Wood (2019).*

The objective of a study refers to the outcome of an activity that the researcher wants to be reached, which, in this case, was to develop an EI to support practitioners to promote motor development in under-resourced ECCE centres in an informal settlement. Individuals and their actions are motivated and directed by goals that can purposefully transform humans, which are linked to and supported by the transformative theory (Mezirow, 2000). Since humans act collectively, learn by doing, and communicate in the action, the PALAR research design is applicable when CHAT is employed as a theoretical framework. The objective provides insight into why people or subjects perform different actions and gives reasons for why actions are initiated (Engeström, 2001). CHAT was built on five principles (Engeström, 2001) that relate to the PALAR design. These principles are summarised in Table 4-5.

**Table 4-5: Relation of Engeström’s five principles of CHAT and the principles of PALAR.**

CHAT	PALAR
Network relations to other activity systems.	Focused on building a relationship with the practitioners as co-researchers to explore their current knowledge and skills of the motor development of babies (0-18 months).
Multivoicedness – multiple points of view, traditions, and interest	There are multiple realities, and these realities are constructed by the co-researchers in their

CHAT	PALAR
	own context. Multiple realities are dealt with in a democratic manner, with all co-researchers respecting one another.
Historicity.	Engagement with experiences and history within a specific context.
Contradictions as a source of change and development.	Growth of knowledge through participation. Collaboration among co-researchers leads to contradictions in knowledge, which, in turn, leads to change to create new ways of creating knowledge.
Transformations in activity systems are used as a lens to look at the interactions among the different role players in the study.	By reflecting on experience and interactions, co-researchers learn and move forward towards a collaborative goal (Ghaye et al., 2008)

*(Engeström, 2001)*

With the above in mind, the principles of CHAT (see Sections 1.6.2, 4.2.1) and PALAR, as the methodological design, were applicable to this study, as they would influence and transform the co-researchers' values, worldviews, and paradigms of learning, teaching, and research as it becomes a way of thinking, feeling, and living (Wood, 2019; Zuber-Skerritt, 2011).

Working collaboratively with co-researchers coming from different cultural-historical backgrounds gave me, as the research facilitator, the opportunity to better understand the context of this study, which is the context in which the co-researchers find themselves. This context is different to the context I know. To me, it was important that all the co-researchers found their voice through collaboration, because other people's experiences and perspectives are important to me and give me a better understanding of their "world". Towards the end of the research journey, the practitioners, as co-researchers, developed agency, took ownership of their knowledge and skills and contributed towards their own professional development.

#### **4.4 Conclusion**

In this chapter, I discussed Mezirow's (1978) transformative learning and how critical reflection forms an important part of transformative learning. I also explored the different phases that an individual goes through in the process of personal and professional transformative learning. The importance of a shared language, a community of learning (ALG), and creating a safe environment in which communication can take place was highlighted to ensure the success of

transformative learning. In this way, a group can share their own ideas, goals, beliefs, and interventions, which can be shared among the professional community (Calleja, 2014).

Reflecting on this study, different theories had to be considered when planning the data generation, as the ALG consisted of adults working as practitioners taking care of babies in under-resourced ECCE centres in informal settlements. To be able to achieve the goals of this study, we had to critically reflect on and evaluate the processes and the success of achieving specific goals as the cycles unfolded to keep everybody interested and motivated. Motivation played a crucial role in driving the co-researchers of the ALG. True to the theories discussed, the co-researchers were at the centre of the learning process and had to understand the importance of the research journey, together with how important their knowledge and experiences were in contributing to the success of the study.

# CHAPTER 5 RESEARCH METHODOLOGY

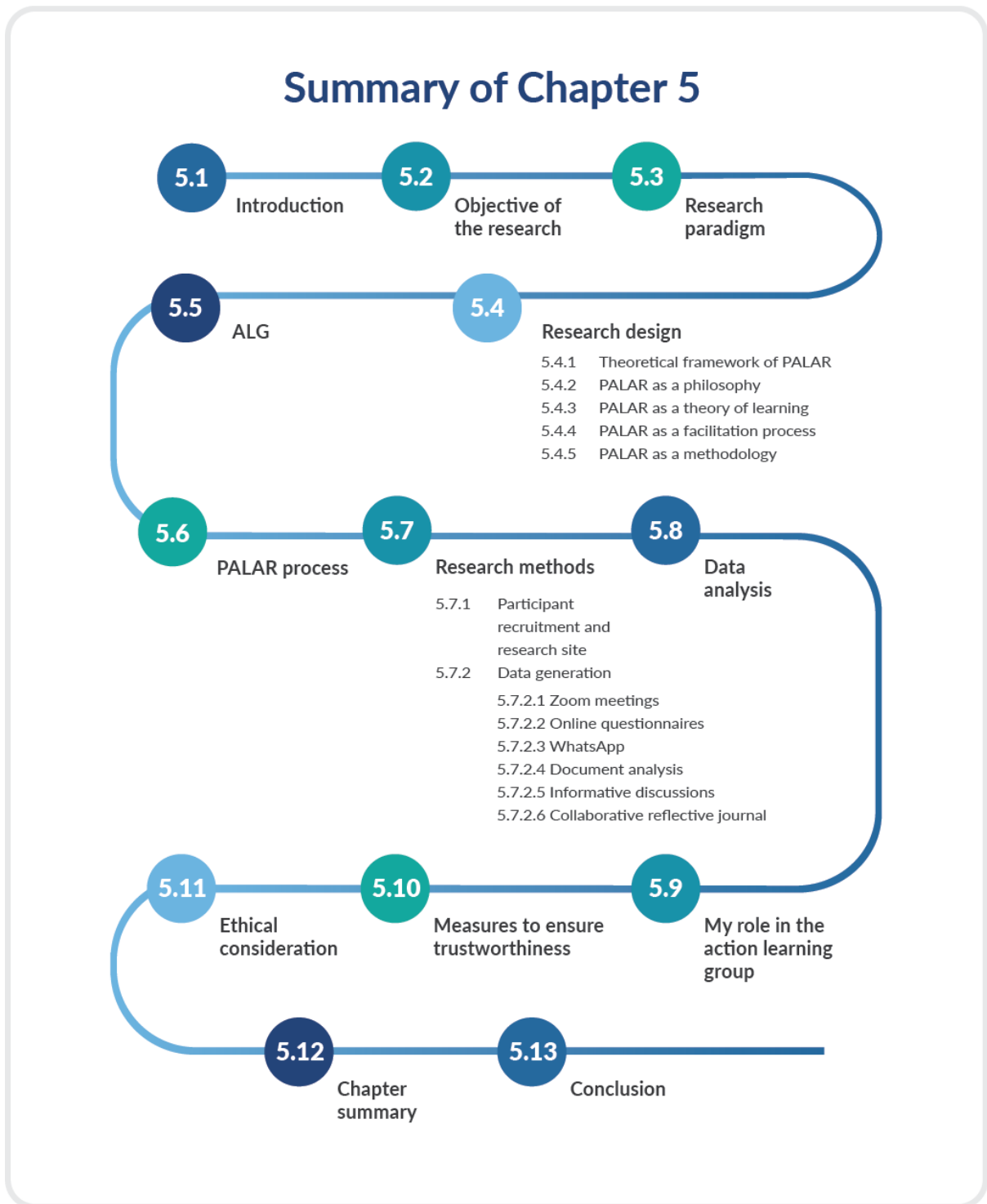


Figure 5-1: Chapter summary.

## 5.1 Introduction

The objective of the study was supporting ECCE practitioners to promote the motor development of babies in three under-resourced ECCE centres in an informal settlement in the Kenneth Kaunda District in South Africa (see Sections 1.1, 1.3, 1.7.3.1). In Chapter 2, ECD policies, education, and the training of practitioners in South Africa were discussed. Holistic child development and specifically the motor development of babies were addressed in Chapter 3, while the theories underpinning this study were discussed in Chapter 4. In this chapter, the methodological paradigm suitable for this study is deliberated, followed by a discussion of the methodology and the selection of participants or co-researchers, along with the data-generating strategies followed. The research project was embedded in a critical, transformative paradigm, following a PALAR design to generate and analyse the data through a qualitative approach. Table 5-1 gives an outline of the research framework discussed in this chapter.

**Table 5-1: Outline of the research methodology.**

<b>Research methodology of the study</b>			
Purpose and objective	The objective of this study was to determine how a PALAR process could support practitioners in informal settlements and under-resourced ECCE centres to promote the motor development of babies aged zero to 18 months by compiling practical guiding activities for stimulating their motor development.		
Primary research question	How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?		
Research approach	Qualitative		
Paradigm	Critical transformative learning theory		
Research design	PALAR		
PALAR process	Cycle 1	Cycle 2	Cycle 3
<b>Cycle 1 (Affected by COVID-19 lockdown levels between March 2020 and June 2021)</b>			
Secondary research question:	What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements about the motor development of babies aged zero to 18 months?		
Research methods or data generation in Cycle 1	Online pre-Cycle 1 as baseline data included face-to-face informal discussion, Zoom meetings, and recycling workshop  Observation in playroom (strict COVID-19 Alert Level 1 regulations – no contact or interaction with babies), Zoom		

<b>Research methodology of the study</b>	
	meetings, informal discussions, online questionnaire, WhatsApp (group/messages/video calls, conversations), e-mail, document analysis (mini-workshops).
<b>Cycle 2 (Affected by COVID-19 lockdown levels between March 2020 and June 2021)</b>	
Secondary research question:	What are the challenges the practitioners are confronted with in promoting the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?
Research methods or data generation in Cycle 2	Zoom meetings from Cycle 1, informative discussions, and online questionnaire
<b>Cycle 3 (COVID-19 restrictions lifted)</b>	
Secondary research question:	What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?
Research methods or data generation in Cycle 3	Face-to-face informative discussions, document analysis, WhatsApp, collaborative journal (consisting of resources and activities created = EI), document analysis (ALG members observing one another demonstrating the practicality of activities)
Participant recruitment	Practitioners with at least two years of work experience with babies in an ECCE setting
Data analysis	Themes Coding Patterns developed Emerging themes and connections
Quality criteria (Herr & Anderson, 2005)	Internal validity, external validity, and reliability were achieved by ensuring the following: Dialogic and process validity Outcome validity Catalytic validity Democratic validity Process validity

## 5.2 Objective of the research

The objective of this research was to determine how a collaborative participatory approach through a community-university partnership could support and equip practitioners in three under-

resourced ECCE centres in an informal settlement to promote the motor development of babies aged zero to 18 months. We did this collaboratively as co-researchers by determining our knowledge and understanding of the motor development of babies at the time. We identified challenges the ECCE practitioners were confronted with in promoting the motor development of babies in ECCE centres. Through a participatory approach, we developed guiding practical activities with relevant proposed resources to promote the motor development of babies, which emerged into an EI.

By employing the PALAR research design, we not only developed guiding activities but aimed to encourage a journey of professional learning and development between the co-researchers in the ALG, which we envisioned to continue after the research had been completed, to support practitioners in general to promote the motor development of babies in ECCE centres in informal settlements (Wood, 2019). Next is a discussion of the research paradigm that underpinned this study, followed by discussions of the research design, research methods, data analysis, quality criteria, and ethical considerations of the study.

### **5.3 Research paradigm**

A research paradigm outlines a set of validated beliefs and plans for collecting and interpreting data (De Vos et al., 2019). It is a lens to organise assumptions by which reality is interpreted (Maree, 2019). For this study, I define “paradigm” in line with the critical transformative learning theory (Mezirow, 2000) as a way of viewing the world to understand different human experiences framing what we *currently* know, what we *can* know, and *how* we can know it when we collaborate in answering the primary research question: *How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?*

Accordingly, PALAR can be regarded as a way of learning and creating knowledge and

... is a way of thinking, feeling, living and being that influences our values, worldviews, and paradigms of learning, teaching, and research. It influences our behaviour, strategies, methods, and therefore the capacity for improving practice. (Zuber-Skerritt, 2011, p. 6)

Wood (2020) affirms the above definition by explaining that PALAR is a paradigm, methodology, and means of facilitation within the contexts of professional development and community engagement recognised by its own ontological, epistemological, methodological, and axiological

assumptions (see Section 1.7.1, Table 1-1). These facets of this study are discussed next to understand the choice of paradigm.

### **5.3.1 The ontological assumption**

#### **What is truth or reality?**

Wood (2020) explains that PALAR is grounded in a participatory and relational ontology and operates from a *relational* ontology, which means that we can only learn about each other and each other's worldviews when we enter a relationship of trust (Joubert et al., 2016; Wood, 2019; Zuber-Skerritt & Wood, 2019). The ontology of the research deals with the type of role the participants and researcher (co-researchers) play and is seen as "what" we are researching and "what" we want to find. The ontology includes assumptions made by the co-researchers to conceptualise the form and nature of what they believe the reality is and to make sense of meaning rooted in data generated from the research at hand (Nguyen, 2019; Wood, 2020). Furthermore, ontology is the nature of reality, and to me, as the research facilitator, it was imperative to keep my objectivity because as co-researchers, we formed part of contributing and creating our own knowledge. Change can only happen when we respect one another's points of view. As co-researchers, we adhered to this when we formed the ALG and built relationships by means of respecting one another's worldviews, values, and knowledge and complying with the 3Rs and 7Cs (see Section 5.4.5) as principles of PALAR. Solid relationships among co-researchers are a crucial part of PALAR before moving into empirical inquiries (Wood, 2020).

### **5.3.2 The epistemological assumption**

The epistemological assumptions refer to ways how we can know and learn in this research journey. Epistemology emphasises how we know reality and focus on the essence of human knowledge and understanding of how the research field can be strengthened (Nguyen, 2019). Epistemology guides co-researchers in how to go about generating knowledge in the context of a research setting (Aliyu et al., 2015; Nguyen, 2019; Wood, 2020).

This participatory research refers to knowledge that is socially constructed and that people who are best suited to construct knowledge are the practitioners themselves. The lived experiences of the co-researchers working in under-resourced playrooms provide contextualised knowledge of how to improve our practice. In this research, we created knowledge resonating Wood and Zuber-Skerritt's (2013) work through collaborative dialogue and the development of critical subjectivity, where all the co-researchers in the ALG developed an awareness of the self and others as persons with knowledge, experience, identities, feelings, beliefs, and desires. Thus, dialogue within the ALG was imperative, as every co-researcher brought authentic, context-related cultural

knowledge to the meeting, on which we all reflected. Wood (2020) refers to this kind of process as a “reflexive dialogue where all the members are active seekers and producers of multiple forms of knowledge” (p. 27), in this research to equip ECCE practitioners to create and improve knowledge and skills to promote the motor development of babies (0-18 months).

### **5.3.3 Axiology**

Axiology refers to the value and ethical aspects that we considered when research is conducted (Nguyen, 2019). These aspects involve understanding right and wrong behaviour when research is conducted (Aliyu et al., 2015). Axiology addresses questions such as “*What is ethical behaviour?*” (Kivunja & Kuyini, 2017). To answer this question, as the co-researchers of the ALG, we considered the value and contributions of all the co-researchers and underlined that we respected one another as such. We all aimed to explore the topic at hand in a respectful manner.

In this research, the axiology set the standards and ensured a balance between the ontological and epistemological assumptions, which refers to respect and accountability, care and commitment and, therefore building a relationship among the co-researchers. We strived to respect the moral, social, political, cultural, and economic values indigenous to one another’s social settings. We engaged in the ECCE community and ensured that the educational products developed were culturally and contextually relevant (see Aliyu et al., 2015; Nguyen, 2019; Zuber-Skerritt & Wood, 2019).

The research journey was developed by means of a PALAR design that is explained next.

## **5.4 Research design**

The PALAR research design contains all the elements necessary, not only to answer the research questions successfully but also to benefit the co-researchers personally in a special way. Zuber-Skerritt (2018) defines PALAR as “a special kind of action research that integrates various concepts and processes, including lifelong learning, collaborative action learning, participatory action, and action leadership” (p. 3). As co-researchers, our behaviour, strategies, and methods and, eventually, our ability to improve practice were influenced by these living experiences evolving from acting and reflecting through action research (Zuber-Skerritt, 2018). We shared our experiences, learnt from one another, and broadened our way of dealing with challenges experienced with the motor development of babies.

#### **5.4.1 Theoretical framework of PALAR**

Zuber-Skerritt (2011) explains that theoretical frameworks used in PALAR include selected aspects and principles taken from several existing theories and are determined by our personal lens through which we see the world. These existing theories include the action theory, grounded theory, critical transformative learning theory, systems theory, personal construct theory, and experiential learning theory (Zuber-Skerritt, 2011). As this study is embedded in the critical transformative learning theory, learning took place in practice through collaborative reflection and transformation bringing theory and practice (praxis) together (Herr & Anderson, 2015). Learning from one another as co-researchers in an ALG, praxis in the current ECCE setting was transformed as we gained knowledge of and skills in the motor development of babies in informal settlements and under-resourced ECCE centres.

#### **5.4.2 PALAR as a philosophy**

One of the principles of action research states that research is not done to or on people but is an inquiry that is done by people of a specific community, through a reflective process with a mutual goal to bring about change in a specific context and ensuring a democratic outcome (Herr & Anderson, 2015; Johnston & Sanders, 2018; Zuber-Skerritt & Wood, 2019). The goal of this research journey was to collaboratively understand our own social and educational context and deepen our understanding of well-grounded practice, together with a philosophy of reality, to improve practice within the specific setting that we are exposed to in order to determine how we see the reality (Herr & Anderson, 2015; Johnston & Sanders, 2018).

Our philosophy included expanding knowledge and skills in the ECCE context and respecting each person's knowledge, skills, strengths, and weakness. As we adhered to the PALAR principles of the 3Rs and 7Cs (see Section 5.4.5), we had mutual respect in the group, encouraging and allowing for constant change and transformation within the group. We had empathy for one another's circumstances and respected one another's feelings and time.

#### **5.4.3 PALAR as a theory of learning**

Action learning takes place in PALAR when people learn from one another in small groups called "action learning groups" or ALGs, identify a mutual problem, and collaboratively address the problem (Wood, 2020). Furthermore, action learning is described as learning that takes place through trial and error, reflecting, and acting on what works and what does not work. Action research interventions that are undertaken by researchers are shaped by a spiral of action cycles illustrated as an infinity sign in Figure 4-1. These cycles start with a *plan* of action with the intention

to improve or change something for the better, followed by *action* to implement the proposed plan. When implementation of the intervention takes place, co-researchers *reflect* on the plan and the action. These activities repeat in progressive cycles of learning (Anderson & Herr, 2015; Marquardt, 1999; Zuber-Skerritt, 2015). Through each cycle, the researcher's knowledge of the original problem expands, deepens, and leads to interventions. There are no time limits to these cycles, as the solution can be reached in minutes or sometimes in years because as researchers, we reflect on our plans and actions. Through action research, the immediate needs of the co-researchers as participants in the ALG are addressed by gaining knowledge that can be reinvested into the research setting (Anderson & Herr, 2015; Wood, 2020).

#### **5.4.4 PALAR as a facilitation process**

The researcher as facilitator is positioned as an integral part of the PALAR research process, facilitating learning and development with the co-researchers (Wood, 2020). PALAR cannot be learnt, but facilitating questions can guide the PALAR process (Zuber-Skerritt, 2015). This process is orientated by the cycle of *planning, acting, reflecting, and creating* activities, as learning takes place through trial and error (Wood, 2020; Zuber-Skerritt & Wood, 2019) (see Section 6.5). My role as the research facilitator in the ALG was to engage all the co-researchers by leading from behind to explore ways, ask questions, and plan, act, evaluate, and reflect on what we know and what we had learnt together with the vision to answer our research question on promoting the motor development of babies.

#### **5.4.5 PALAR as a methodology**

A methodology guides a researcher to understand what the researcher finds within the research process (Wood, 2020; Zuber-Skerritt & Wood, 2019). According to Hartas (2010) and Joubert et al. (2016), a methodology refers to the specific plan, process, or framework that a researcher will follow to investigate the research problem. The research methodology can be used as a structure and indicates the theories, methods, and instruments on which the study is based. Within the research methodology, the research questions are determined, and it provides an explanation of the kind of study that was undertaken and the research methods that were involved, such as data collection and data analysis tasks (Maree, 2019; Wood, 2020).

In this study, a qualitative research approach was followed as an inquiry process within a PALAR design. This allowed us, as co-researchers, to collaboratively engage through an action learning research process, as suggested by Zuber-Skerritt (2018). The co-researchers were all women from diverse historical and cultural backgrounds, with different experiences and perceptions of

life, clustered together in an ALG to collaborate as equal partners to gain a deeper understanding of the motor development of babies.

In a PALAR process, knowledge is gained and all involved contribute towards change or improvement in their own setting or context. In this way, agency is developed. To be able to change and improve practice, we need to acknowledge the PALAR principles of the 7Cs – communication, commitment, competence, compromise, critical self-reflection, collaboration, and coaching – and the 3Rs – relationship, reflection, and recognition (Wood, 2019) (see Sections 1.7.2.2, 5.1). Both the 7Cs and 3Rs support and promote the creation of knowledge and practical, social, and educational improvements in the specific research context. The 7Cs and 3Rs of PALAR (Wood 2020; Zuber-Skerritt 2018) are explained and summarised next.

In this study, the 3Rs guided the participants as co-researchers in the research process and assisted us in understanding how PALAR can support practitioners to promote the motor development of babies. In each cycle of activities, we, as co-researchers, gained more knowledge of and skills in promoting motor development in an informal settlement with little or no resources.

### **3Rs as PALAR principles**

- The development of a democratic, authentic, trusting, and supportive **relationship** between us as co-researchers took place in Cycle 1.
- **Reflection** happened collaboratively in the learning context in all cycles.
- PALAR follows a people-centred approach; therefore, **recognition** of the knowledge, skills, and contributions of all the co-researchers occurred during all research actions in all three cycles.

### **7Cs as PALAR principles**

- PALAR requires that **communication** is dialogical, symmetrical, and inclusive and is seen as central to relationships and learning (Herr & Anderson, 2015; Wood 2020) among the co-researchers. It was, thus, important to regularly communicate with and listen to one another because of the diverse backgrounds we all came from and because we all had to communicate in English, which was not the mother tongue of any of the co-researchers.
- The **commitment** of participants as co-researchers is clear when people feel part of a team and take responsibility for their role in the group. The co-researchers showed commitment throughout all cycles of the research and collaboratively contributed to reaching the outcome. It was my responsibility as the research facilitator to keep the co-researchers committed.

- The **competence** of both university- and community-based co-researchers developed as the cycles progressed (see Wood, 2020). The co-researchers gained confidence in their own ability to contribute to the outcome of the research.
- **Compromise** – as co-researchers in the study, we had to be willing to listen to one another, as we all brought different, pedagogical, and practical knowledge to the group. No one was superior in what we knew about the motor development of babies, and together we gained knowledge.
- The feelings, thoughts, motives, and values of the co-researchers influenced the process, and therefore, **critical self-reflection** was important (see Wood, 2020). We wrote down what we experienced and felt was something that we should practice. What I found valuable in this study was collaborative reflection, which taught us, as co-researchers, that it is valuable to write down what one feels and what one's thoughts are about something.
- **Collaboration** among the co-researchers took place throughout all cycles of this study. Together we developed an EI to support practitioners to promote the motor development of babies.
- **Coaching** – the ALG meetings were held in a space where we saw one another as friends, in a safe space, to share personal experiences. We could share and mentor one another, not just for the purpose of the outcome but with all educational and personal challenges and good tidings.

## 5.5 ALG

An ALG, according to Wood (2020), refers to a small group of participants or co-researchers working collaboratively towards the same vision or goal. In this study, the ALG consisted of four co-researchers who were consistently involved in the process – three ECCE practitioners with one or two ECCE practitioners working under them taking care of babies, and I. In my capacity as the research facilitator, we collaboratively formed the ALG. This is aligned with Marquardt (1999) and Wood (2020), who are of the opinion that an ALG set should consist of four to eight members to be effective. Wood (2020) indicates that the group size depends on the developmental needs of the members, as well as the context of the research problem. Even though we initially aimed to have seven members in the ALG, it was not possible due to logistical challenges such as staff changing, limited staff in centres, and the COVID-19 pandemic restrictions, which limited access to the practitioners working under the ALG.

Collaboratively the ALG addressed the issue of how to promote the motor development of babies in informal settlements and under-resourced ECCE centres, which was a mutual interest of all the members of the ALG. Action learning is important to optimise participation and eliminate an

unavoidable power relation in a university-community relationship (Wood, 2020). PALAR offers the opportunity for co-researchers in the ALG to learn from one another, get insight into one another's lives, and develop professionally through collaboration. A valuable attribute of the ALG was the development of relationships in a space where we felt safe. In the safe space, we each built confidence in our abilities to make contributions to bringing about change, as stated by Wood (2020).

From the experience gained in this research journey, I realised a few things that needed to take place in the ALG to guarantee the success of the research study. Firstly, there should be a mutual understanding among the co-researchers, respect and empathy for one another, taking into consideration diverse beliefs, practical knowledge, skills and experience, context, and language differences and preferences. Secondly, an open and honest relationship should be built between the co-researchers, and thirdly, a space should be created where all the co-researchers would feel that we could contribute and that our opinions, knowledge, and skills mattered. The aim and commitment of co-researchers in an ALG are based on democratic principles where all of them are regarded as equally important to constructing a relevant solution to the problem (Wood, 2020; Zuber-Skerritt, 2018). This is aligned with the 3Rs set out as the PALAR principles (see Section 5.4.5).

During our research journey, we met regularly and had the opportunity to collaboratively share our knowledge, ideas, and thoughts and to creatively find solutions to the problem at hand in the safe space of the ALG. The answer to the problem was vague at first, but through the cycles of planning, acting, reflecting, evaluating, and creating, a possible solution became clear (Wood 2020; Zuber-Skerritt & Wood, 2019) (see Sections 1.7.2.2, 5.4.4, 5.6). Taking the context of the ALG into consideration, we were able to collaboratively create practical guiding activities compiled as an EI that could support practitioners to promote the motor development of babies in their care.

As co-researchers, we learnt to become lifelong learners and improve our personal and professional lives (see Wood, 2020). Furthermore, we could influence others and contribute to improving our own community, as indicated by Wood (2020). This led us to selecting "Kaboentle: Motheo wa Setshaba" as the name of the EI. *Kaboentle* means "precious gift" and *Motheo wa Setshaba* means "foundation of the community" (see Annexure H). The reason for choosing this name is because we saw ECCE practitioners who worked with babies as a "gift" who could lay a foundation in their own community by stimulating the motor development of babies by using the knowledge and skills gained in the process of collaboratively compiling the EI (see Cycle 3). Furthermore, they can use the knowledge and skills gained and use the EI as a tool to empower other ECCE practitioners in the community to broaden their knowledge of and skills in stimulating

the motor development of babies in their care. This EI can also be used to assist the wider practitioner community by equipping practitioners with skills and knowledge on stimulating the motor development of babies in a short space of time without completing a formal qualification.

## 5.6 PALAR process

In Figure 5-2, PALAR is explained as an infinity sign moving constantly through three cycles of relationship and research. These three cycles are continuously revisited and revised. Baseline data were first gathered as a pre-cycle that led to Cycle 1. During the first process, the co-researchers focused on relationship building, personal development, defining the mutual purpose, and agreeing on ethical ways to work together. The relationship grew stronger during each cycle of setting the research questions, determining the research methods, working out an action plan and strategies to collect and analyse data with ample creativity and adjustments, reflecting on learning and development, and finding of a vision for the way forward. By answering the questions “what?”, “who?”, “where?”, “when?”, and “how?”, the co-researchers were able to create a vision for the research before moving to the research component, which is the lower cycle of the infinity sign below. Below, the infinity sign clearly explains the cycles of planning, acting, reflecting, and creating that this research process followed within a PALAR process to be able to reach a mutual goal.

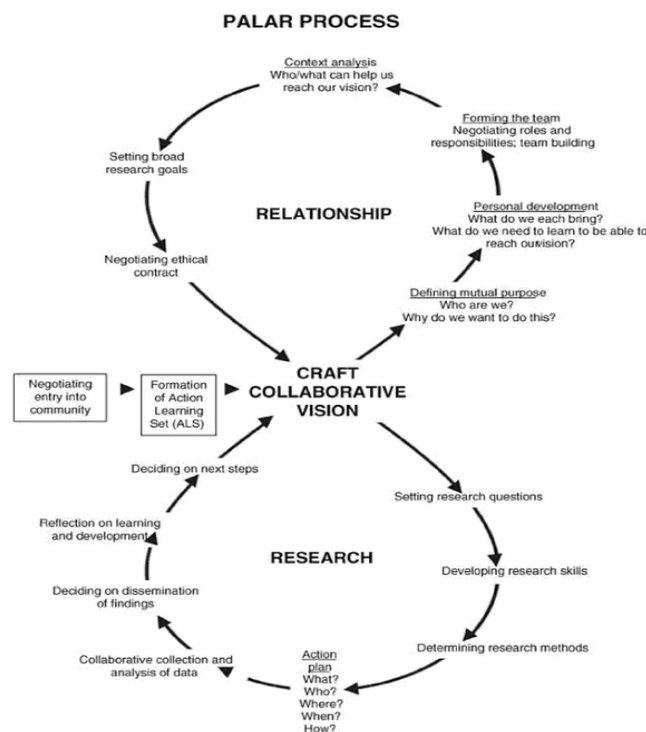


Figure 5-2: The infinity sign explaining the PALAR process.

(Wood, 2020, p.106)

In the PALAR process depicted above, the relationship component was revisited in each cycle to some extent to ensure that the process remained authentically participatory and in line with the agreed-upon ethical processes.

This research consisted of three iterative cycles of planning, acting, reflecting, and creating, guided by the secondary research questions as the focus of each cycle. Employing strategies to answer the secondary research questions in these cycles led us to compile an EI with stimulating activities with available resources, which included recycled materials, to support practitioners to be able to promote the motor development of babies. The co-researchers negotiated the number of sessions in each cycle and the way forward, but this was all affected by the COVID-19 pandemic, and we had to re-think our data generation. During Lockdown Level 5 (South African Government, 2020), we had Zoom meetings to further relationship building.

The following is a short summary of each cycle, anticipating that Chapters 6 to 8 are centred on these.

### **5.6.1 Baseline data and Cycle 1**

An introductory meeting was held where we were all introduced. Furthermore, the gatekeeper explored the ethical aspects noted, and we came to an ethical working agreement (consent forms) to act as co-researchers in the context of the research (see Wood, 2020).

Cycle 1 started off with relationship building among the participants as co-researchers, followed by setting out the PALAR principles (see Section 5.4.5) in which we addressed the first secondary research question: *What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements about the motor development of babies aged zero to 18 months?*

The ALG meetings were planned and negotiated during the generation of baseline data and adapted as the process unfolded to consider the COVID-19 regulations and to suit all the co-researchers. Collaborative critical reflection took place during each meeting (session) on what was said in the previous meeting to determine what should be refined in the next meeting.

We generated data by my keeping a collaborative reflective journal to motivate continuous participation and democratically guide the reflective discussions. We interpreted the existing knowledge and skills in Cycle 1 and moved to Cycle 2, where we explored the challenges with which the practitioners were confronted. Furthermore, data were gathered through informal observations in a playroom under strict COVID-19 regulations. I had no contact or interaction with the babies and sat close to an open window with a mask on. Furthermore, on lockdown levels where entry to the centres was not allowed, we used Zoom meetings. We also used WhatsApp

messages on a group created for this study under the rules of the *Protection of Personal Information Act* 4 of 2013, where each participant voluntarily took part in the study and the WhatsApp group (see Annexure F). WhatsApp also included video calls and conversations, and we also used e-mail to send information to one another.

Document analysis took place when we tried to better understand the NCF (DBE, 2015) and the NELDS (DBE, 2009) as guidelines for the early development of babies. Informal discussions were important not only to gain data but also to build a stronger relationship within the ALG. Furthermore, an online questionnaire was used to establish knowledge in this cycle.

### **5.6.2 Cycle 2**

Cycle 2 commenced with relationship building resuming among the co-researchers, followed by the PALAR principles (see Section 5.4.5), reflecting on and revisiting Cycle 1 iteratively with the focus to address the second secondary research question: *What are the challenges practitioners are confronted with in promoting the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?*

In this cycle, the focus was to transform or disturb the co-researchers' ways of thinking about and understanding motor development and introduce more constructive alternatives with a view to addressing it (see Mezirow, 2000). For example, the data generated opened my eyes to many challenges that I had not been aware of, coming from a different context and standing on the other side of the fence, being a lecturer at a university. It was clear how the triangulation of constraining factors, such as the task, individual, and environment (Keogh & Sugden, 1985), the ecological system (Bronfenbrenner, 1974) (see Section 3.2), and CHAT (Engeström, 2001) (see Sections 1.6.2, 4.3) had an impact on one another.

### **5.6.3 Cycle 3**

Relationship building resumed in Cycle 3, and the ALG reflected and revisited Cycles 1 and 2 iteratively and addressed the third research question: *What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?*

The co-researchers collaborated in creating guidelines, compiled as an EI, consisting of guiding activities to stimulate the motor development of babies in informal settlements and under-resourced ECCE centres. During this cycle, the ALG planned and created guiding activities and then evaluated and reflected on these possible activities. In the ALG, we reflected on not only the development of the guiding activities but also our attitudes to and visions about the motor

development of babies, as our knowledge and skills were expanded in the learning process. Moreover, the ALG explored ways to ensure the sustainability of the intervention and the partnership and reflected on the process of working collaboratively to develop an EI.

Next, the research methods used in the abovementioned cycles are discussed.

## **5.7 Research methods**

Research methods are tools that researchers use to gather data (Maree, 2019). In a PALAR research design, research methods are flexible (Wood, 2020). The research methods include participant recruitment, data generation activities, and data analysis.

### **5.7.1 Participant recruitment and research site**

Due to the nature of the study, the three research sites are in an informal settlement and under-resourced ECCE centres in the Kenneth Kaunda District, South Africa. The practitioners were recruited by the gatekeeper (see Sections 1.7.3.1, 5.7, 6.1). These centres resonate under an independent trust organisation, with various playrooms accommodating babies, toddlers, and young children of the community. Initially, I thought a language interpreter would be recruited to ensure that the co-researchers feel safe and protected during discussions. However, one of the members of the ALG was fluent in all three languages spoken by the co-researchers, which were English, Setswana, and Afrikaans. When someone was not comfortable in English, which was the language all the co-researchers understood and could communicate in, they were able to speak in their mother tongue, and this co-researcher translated for all of us to understand.

### **5.7.2 Data generation**

Data generation in a qualitative research study refers to flexible strategies, activities, or methods used by a researcher to generate data from a specific data source to answer the research questions. The data sources can include but are not limited to human participants, documents, online electronic media, and events (Nieuwenhuis, 2019).

The original data generation plan for this study had to be adapted and re-thought because of the COVID-19 lockdown levels and regulations that we were faced with for the duration of this study. The qualitative data generation methods included Zoom meetings, online questionnaires, WhatsApp (messages and calls), document analysis, informative discussions in the ALG, a collaborative, reflective journal, participant observation when demonstrating motor development activities (without children), and transcriptions of recorded sessions of the ALG informative discussions. Next, the various data generation methods are discussed in more detail.

### **5.7.2.1 Zoom meetings**

Improved Internet access and use of technology are two advantages of using information technologies and offer opportunities for qualitative research data collection (Archibald et al., 2019). It offers researchers the opportunity to reach participants during the research journey at any convenient time for all involved. Zoom Meetings is an exclusive videotelephony software program developed by Zoom Video Communications (Archibald et al., 2019). By using the Internet, a video conference meeting is hosted by the Zoom software platform on a smart device, such as a computer, tablet, or cell phone, which allows people to get in touch from anywhere at any convenient time (Archibald et al., 2019). Due to the COVID-19 pandemic regulations, Zoom meetings allowed us to build relationships and move forward with this qualitative research.

Even though Zoom gave us the opportunity to carry on with this study due to a pandemic, limitations were experienced. It was difficult to read body language in the discussions, and from time to time, there would be an interference in sound and connectivity. The co-researchers were provided with data to be able to participate in the Zoom meetings, as they did not always have data to connect.

### **5.7.2.2 Online questionnaires**

Online research tools have become common as data collection instruments (Wright, 2017). An online questionnaire allows a researcher to reach people in a short amount of time, despite possibly being separated by great geographic distances. The answers are immediately available to the researcher (Raju & Harinarayana, 2016). For this study, I used Google Forms, which is a free online software tool that allows one to create online questionnaires via a link provided to the participants (Raju & Harinarayana, 2016). The Google online questionnaire provides researchers with the option to set a questionnaire so that only those with the link can complete the questionnaire. The advantage of an online questionnaire is that people can complete the questionnaire in their own time, on their own devices, whether a phone, tablet, or computer.

The online questionnaire was used to gather biographical information, such as age, gender, language, qualifications, and training. Furthermore, it was used to gather information on the centres and baseline information on the co-researchers' existing knowledge of the motor development of babies.

### **5.7.2.3 WhatsApp**

WhatsApp is an online application that is usually used for informal communication on smartphones and computers. It is a user-friendly application and can be used to send text

messages, live locations, images, voice recordings, documents, and videos, as well as to make voice and video calls (Dodds, 2019; Jailobaev et al., 2021). Jailobaev et al. (2021) have found that using WhatsApp in research projects promotes communication and gives groups a sense of belonging. Due to the COVID-19 regulations, we also used WhatsApp as a data generation strategy.

We used WhatsApp group messages and calls to support one another in our learning process, as we could discuss and reflect on the activities we discussed. WhatsApp allowed us to keep building our relationships within the ALG. In times that we could not meet and share the activities we implemented in the centres, we were still able to share photographs and activity planning that contributed to developing the EI.

#### **5.7.2.4 Document analysis**

Document analysis is a technique used in qualitative research to study and analyse documents that answer a research question (Dalglish et al., 2020). To analyse electronic or hard-copy documents means that a researcher is trying to better understand the documents and build knowledge based on the documents that are being studied. Analysing the documents at hand can assist the researcher in better understanding the research context, and these documents can also confirm evidence found in the research. Two or more sources of data can be compared to establish similarities or differences (Dalglish et al., 2020; Frey, 2018).

In this study, we analysed the NELDS and NCF documents. The NELDS and the NCF documents, created by the DBE, offer guidelines on the development of babies, toddlers, and young children in ECCE centres (see Sections 1.1, 2.7, 3.3.2, 6.1.4, 6.1.5). Therefore, it was important for us as an ALG to compare these two documents in order to gain knowledge of the content of these documents and to better understand how to use them interchangeably in creating the EI for the motor development of babies.

#### **5.7.2.5 Informative discussions**

The ALG discussions included informative, purposeful, reflective face-to-face and electronic discussions. All four members of the ALG met regularly to share our experiences, including people's actions, behaviour, interactions, and opinions, and to reflect collectively, with the objective to learn from and support one another (see Chitiyo et al., 2015; Zuber-Skerritt, 2015). Discussions are a purposeful way of gathering rich data, as participants complement, support, or disagree with one another's views, and questions are derived from reflections and answered through the discussions. I recorded the discussions, and the recordings were transcribed by an

independent scribe for the purpose of data analysis, as well as for reflective purposes by the ALG. This method also motivates participants who dislike individual interviews to communicate their experiences and views in a group (Dakwa, 2015).

#### **5.7.2.6 Collaborative reflective journal**

A reflective journal gives a researcher the opportunity to capture experiences and feelings of, reactions to, and changes in the relevant practice. Ndamba and Van Wyk (2016) explain that a reflective journal encourages people to discuss issues of concern. They are given a chance to reflect not merely on observations but also on their emotions and understandings that are related to the action research process (Mills, 2018). Furthermore, a reflective journal includes thoughts about learning and development, skills that should be developed, and different incidents that occurred in practice (Ndamba & Van Wyk, 2016).

We originally decided that each co-researcher would reflect in her own journal. The limitations of the reflective journal were that I provided each ALG member with a journal, but I realised that they did not have the time and skills outside the ALG discussion to reflect on our discussions on their own, and therefore, I started the collaborative reflective journal. Because a hard-copy reflective journal did not work for us, I kept this journal electronically and added activities and reflections as we shared them. In this journal, I tried to capture the collaborative reflections, the activities we created, and face-to-face ALG discussions. I captured my own experience of the reflective discussion to capture the emotions, understanding of the topic, and suggested ideas within the research process. Furthermore, I tried to capture the learning and development within the ALG

In this case, a document capturing the learning, development, skills, and activities that are related to the motor development of zero- to 18-month-old babies in the playroom was kept and led to the EI created in this study.

### **5.8 Data analysis**

The data analysis entailed analysis of the Zoom meetings, online questionnaires, WhatsApp (messages and calls), documents, collaborative reflective journal (creating and identifying resources and participant observation when demonstrating motor development activities without children), and informative discussions in the ALG (transcriptions of recorded online and face-to-face sessions displayed in Table 5-1 and further discussed in Chapters 6, 7, and 8 as Cycles 1, 2, and 3. Lacey and Smith (2010) point out that data in action research can be a considerable amount and thus be overwhelming. In PALAR, as Zuber-Skerritt (2011) points out, the analysis of data is a continuous process because the cyclical process of collecting and analysing data is

interlinked and reflection is integrated into every session of data collection. Once the data had been collected, the grounded theory analysis was applied in the following stages as suggested by Flick (2014) and Saldaña (2013):

- Coding proceeded from open to selective coding to integrate it with theoretical concepts.
- The concepts developed through constant comparison with other portions of data, which included Zoom meetings, informative discussions, WhatsApp, observations, the collaborative reflective journal, and online questionnaires.
- The emerging themes and their connections were integrated with the existing theoretical literature to find how these all fit together in categories.

According to Cohen et al. (2018), it is essential that the researcher and co-researchers in the study are actively involved in data collection and analysis to ensure that the necessary assumptions and theories can be obtained from the data. This gives the co-researchers the opportunity to gain a deeper understanding of the dynamics of the situation (Byrne, 2021; Nieuwenhuis, 2019). The co-researchers in this study had the opportunity to gain a deeper understanding of the importance of motor development for babies by collaboratively reflecting on gained knowledge and skills within an informal settlement context to promote motor development. Furthermore, the themes that stood out during the cycles of *planning, acting, reflecting, and creating* were collaboratively analysed as learning took place through trial and error.

Reflective thematic analysis is an approach to qualitative data analysis that is accessible and a theoretical, flexible, interpretive approach to identifying and analysing patterns and themes (Byrne, 2021). Themes are generally understood to represent an overview of what the members of the ALG said in correlation to a specific topic or data-gathering question. The researcher's active role in knowledge creation is accentuated in the reflective analysis approach, and codes represent the interpretations of patterns of meaning from the researcher's lens (Byrne, 2021). Reflexive thematic analysis is regarded as a reflection of the researcher's interpretive analysis of the data conducted at the convergence of:

- the site of the research;
- the theoretical assumptions of the analysis; and
- the analytical skills or resources of the researcher.

It is acknowledged that no two researchers will divide this three-way criterion in the same way. Themes are produced by organising codes with regard to similar ideas or concepts that the researcher interprets from the data (Braun & Clarke, 2019). The researcher should always embrace reflexivity, subjectivity, and creativity as assets in knowledge production (Byrne, 2021).

As co-researchers, we were actively involved in the data generation and analysis by keeping a reflective journal throughout the observations and reflecting on what the practitioners were doing (plan), then acting, reflecting again, and acting (creating guiding activities as intervention) to improve the situation. I, as the research facilitator, kept a collaborative reflective journal to ensure that the practitioners stay committed to the study, as time became a constraint due to various challenges experienced by the co-researchers (see Sections 1.7.3.2, 5.7.2) and keeping individual journals added to the co-researchers' workloads. As the research facilitator, I motivated reflexivity, subjectivity, and creativity in the cycles of collaborative knowledge creation. Furthermore, as the research facilitator, I directed the recorded ALG discussions, guided by open-ended questions that derived from reflections, to the group and opened them for collaborative discussions. These discussions were transcribed by an independent scribe for the purpose of data analysis, as well as for reflective purposes by the ALG.

The following steps were followed to analyse the data (Creswell & Creswell, 2018):

- Organising and preparing the data for analysis by reading or looking at the activities created collaboratively as data themes.
- Coding the data by analysing the data generated (activities created).
- Developing patterns as themes were generated.
- Giving a representation of the description and themes.

These steps were followed because different interpretations could have been possible when different data-generating strategies are used during the different stages of the research. It is, therefore, important to discuss all data analysed in the ALG with the co-researchers.

## **5.9 My role in the ALG**

As the research facilitator, I had to explain aspects of the role and functioning of an ALG, which included principles such as we, as participants and co-researchers in the ALG, all being equal. Initially, the co-researchers called me "ma'am", which in South Africa, is a form of respect, but I explained to them that we, as co-researchers, were equal and, therefore, would call one another by our first names. Furthermore, I explained that we, as co-researchers, were there to learn from one another and that it was important to respect one another and the knowledge and skills we all brought to the group. I had to explain and promote the fact that if we wanted to learn from one another in this process, it would mean that we had to listen to one another's views and experiences and give one another the opportunity to voice our thoughts. These aspects are underpinned by the 3Rs as PALAR principles, which are relationship, reflection, and a people-centred approach to research. It also relates to the 7Cs, which include communication,

commitment, competence, compromise, critical self-reflection, collaboration, and coaching (see Sections 5.4.5, 5.12).

Initially, the co-researchers saw me as an expert who would teach them about the motor development of babies, but through relationship building, they soon came to realise that I was there to learn with them. Sharing knowledge, respecting the co-researchers' knowledge and views, and expressing my desire to learn from them contributed to forming a collaborative partnership. Even though I guided the co-researchers, as the research facilitator, I learnt a lot from them, specifically about context-related matters. I come from a context where resources are freely available, and in this process, I learnt how little one needs to be able to promote the motor development of babies. My role included guiding the practitioners in promoting motor development with little or no resources. As equal co-researchers, we collaboratively developed new ideas, knowledge, and skills for practical solutions; thus, this research was conducted *with* participants and not *on* participants (Herr & Anderson, 2015; McNiff & Whitehead, 2010; Wood, 2020).

## **5.10 Measures to ensure trustworthiness**

The integrity of the study was addressed by integrating the five quality indicators for action research (Anderson et al., 2007). Herr and Anderson (2015) suggest that participatory research requires a unique system before the integrity or quality of the study can be determined. This unique system is based on five validity criteria, linked to the goals of action research, on which this study was drawn. The five validity criteria are outcome validity, process validity, democratic validity, catalytic validity, and dialogic validity (Herr & Anderson, 2015).

### **5.10.1 Outcome validity**

Outcome validity refers to the degree to which the actions of an action research project result in finding the answer to the research problem under investigation. It, therefore, implies whether the research project has been successful in reaching action-orientated outcomes (Herr & Anderson, 2015; Wood, 2020). The co-researchers in the ALG collaboratively reflected on all stages of data generation and data analysis, which gives credibility to this study.

### **5.10.2 Process validity**

Process validity implies to what degree problems are shaped and resolved in a way that allows the individual or organisation to learn on an ongoing basis. The question that arises is whether a relevant research methodology was used to reach the outcomes (Herr & Anderson, 2015; Wood, 2020). Process validity also refers to the quality of the research process and whether the core

PALAR principles are adhered to (Wood, 2020). The action-orientated outcome can only be reached if sound processes have been put in place, but the process is not limited to the research methods. In this study, it was my responsibility to ensure that the co-researchers consistently followed the correct processes to ensure that ongoing learning took place in order to enable us to achieve our goals to be able to reach the action-orientated outcomes.

### **5.10.3 Democratic validity**

Democratic validity is achieved when participants are collaboratively involved in the process of action research or when they are part of the data sources as participants of the problem under investigation (Herr & Anderson, 2015; Wood, 2020). All the participants contributed as co-researchers to the discussions and actions by giving their own perspectives that led to decisions made by the ALG as a collective. The result is the EI, consisting of stimulating activities for the motor development of babies, which is appropriate to the local context (see Herr & Anderson, 2015).

### **5.10.4 Catalytic validity**

For catalytic validity, the following question can be asked: Has transformation taken place? Catalytic validity speaks about the degree to which the research process functions as a motivation to enable the co-researcher to be enthusiastic about understanding reality to change it. It is significant, as it illuminates the transformative capacity or power of action research (Herr & Anderson, 2015; Wood 2020). The action research process thus served as a catalyst and was the driving force for the co-researchers to act to bring about positive change to the research site, which resonates with Mezirow's (1997) transformative learning theory. Both the research facilitator's and the co-researchers' understanding of what the motor development of babies entails, as well as our knowledge and skills, was enhanced through the process of this participatory study (see Herr & Anderson, 2015).

### **5.10.5 Dialogic validity**

Dialogic validity refers to the space created for dialogue (see Sections 1.11, 4.2.1) between co-researchers, where they can listen to and learn from one another (Wood, 2020). The ALG met frequently to reflect critically on our own assumptions and practices. New knowledge was generated by using different methods, resulting in evidence and findings that resonate with a community of practice (see Herr & Anderson, 2015). Collaboratively, we gained knowledge of and skills in promoting the motor development of babies within informal settlement settings. Working collaboratively and learning about one another's feelings, desires, and needs in an ALG resonate

with Mezirow's (1997) transformative learning theory, as well as PALAR principles (see Sections 4.2.1, 5.4.5).

## **5.11 Ethical consideration**

There are three principles of ethics, as stated in the *Belmont Report* (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978), that need to be adhered to, namely respect for persons, beneficence, and justice. Next, I explain how they were operationalised for PALAR by referring to the principles of PALAR: communication, critical reflection, collaboration, commitment, coaching, competence, and compromise, operationalised through relationship, reflection, and recognition.

### **5.11.1 Respect for persons**

Allowing people to act on their own values and interest means that people can be independent, self-directed, self-sufficient, self-governing, and free to contribute towards the research at hand. PALAR regards all people as capable of learning and developing, no matter what circumstances they live and work in (Wood, 2020). This study focused on the learning and development of practitioners in under-resourced ECCE centres in an informal settlement. The co-researchers were not seen as vulnerable, and there was no risk involved for them. Moreover, they had the choice of being part of this study and in the way in which we conducted the research.

### **5.11.2 Beneficence**

Beneficence refers to the fact that research is beneficial to the participants in a specific study and that they are protected from any harm during the specific study (Steinert et al., 2021). Due to the nature of participatory research, it is important that the evaluation of risk is done continuously throughout the research procedure. In this participatory approach to research, the co-researchers were recognised for the knowledge and skills that they had collaboratively developed. No expectations that could not be reached were communicated, as we worked collaboratively in improving our own knowledge and skills, as suggested by Wood (2020).

### **5.11.3 Justice**

The ethical principle of justice is initiated by the selection of participants and the signing of informed consent (Wood, 2017). Informed consent forms were signed by the co-researchers in this study after communication about what the project would entail and what would be expected of all co-researchers. Voluntary participation was agreed upon after a relationship was formed between the participants, as co-researchers, and me. Permission to take part in the study was

also given on the WhatsApp group when we had to rethink our data generation strategies when we were confronted with the global COVID-19 pandemic. Therefore, the PALAR principles or 7Cs of commitment, competence, and compromise played a major role in the success of this study. The study started out as members of the ALG had an interest in the same issue, which was knowledge about stimulating the motor development of babies.

Ethical clearance was received for the project “Early Childhood Care and Education: Building partnerships between teachers, caregivers and parents for the holistic development of young children” under which this doctoral study resonates as an output from the project. The approved ethics number for the project mentioned above is NWU-01615-19-A2 (see Annexure A). The head of the department of the North West Department of Education granted permission for these studies to be conducted, as these centres resonate under guidance of the Department of Education due to the Grade R classrooms within these centres (see Annexure B).

Even though this doctoral study resonates under the project mentioned above, I also applied for an ethics number specifically for this study and received clearance with ethics number NWU-01207-20-A2 (see Annexure A). The initial ethics approval period stretched from 24 October 2019 to 24 October 2020. A second application was submitted due to small changes in the application, and permission was granted to gather data until February 2021. Then adapted extension was granted until 28 October 2022, because this study was classified as a low-risk study and the COVID-19 pandemic hindered face-to-face contact sessions with the co-researchers (see Annexures C and D). The ethics application was re-submitted due to lockdown levels influencing ethical procedures. An ethical agreement was signed by all the participants as co-researchers prior to the start of Cycle 1 (see Annexure C). This agreement explained to the co-researchers what the research was about, what was expected of them, and what the benefits of this study were.

Protocols were put in place to ensure the safety of all the co-researchers. The protocol stipulated that no co-researcher would continue with face-to-face contact if she experienced any COVID-19 symptoms. All the co-researchers committed to screening before entering the three ECCE centres, which included signing a form stating whether they were experiencing COVID-19 symptoms and what their temperature was. Moreover, the co-researchers always had to wear masks and sanitise their hands upon entering the centres. Social distancing was adhered to, and the windows in the centres were always open.

The use of WhatsApp as a data generation strategy also involved ethical considerations. The WhatsApp group that was used in this study for communication and data generation was registered on the North-West University system and complied to the *Protection of Personal*

*Information Act 4 of 2013* (see Section 5.7). A message was posted on the group where any of the co-researchers could withdraw from the WhatsApp group or, if they stayed in the group, they gave permission to take part in all information shared related to the study on the group (see Annexure F).

### **5.12 Chapter summary**

The research paradigm of this study is PALAR. This methodological paradigm was chosen, as it was applicable to the study and a context-specific paradigm that awarded an opportunity to improve practice. This interactive process of action and reflection guided the members of the ALG to learn from one another and improve practice in a collaborative manner. The PALAR process reinforced the co-researchers' willingness to improve their own knowledge about and skills in promoting the motor development of babies in informal settlements and under-resourced ECCE centres.

The objective of this study was to collaboratively develop guidelines to support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements. Since the PALAR methodology was employed, the co-researchers were part of crafting and negotiating the findings, and collaboratively we developed an EI. The findings of the crafting and negotiating of Cycles 1 to 3 are discussed in the next chapters.

### **5.13 Conclusion**

In this chapter, I used Table 5-1 to give an overview of the research methodology of this study. I started by discussing the research paradigm, including ontology, epistemology, and axiology. The research design related to PALAR as a theoretical framework, philosophy, theory of learning, facilitation process, and methodology was discussed. The ALG and the PALAR process were explained. The objective of this study was discussed, and the main research question and secondary research questions, each relating to a cycle unfolding in this study, were mentioned. The relevant research methods, including participant and site recruitment and data generation methods, were discussed, as well as the data analysis. My role as research facilitator and the quality criteria and ethical considerations of the study were explained. In Chapter 6, I explain how Cycle 1, related to the first secondary research question, unfolded.

# CHAPTER 6 CYCLE 1: EXPLORING KNOWLEDGE AND SKILLS OF ECCE PRACTITIONERS ON MOTOR DEVELOPMENT OF BABIES

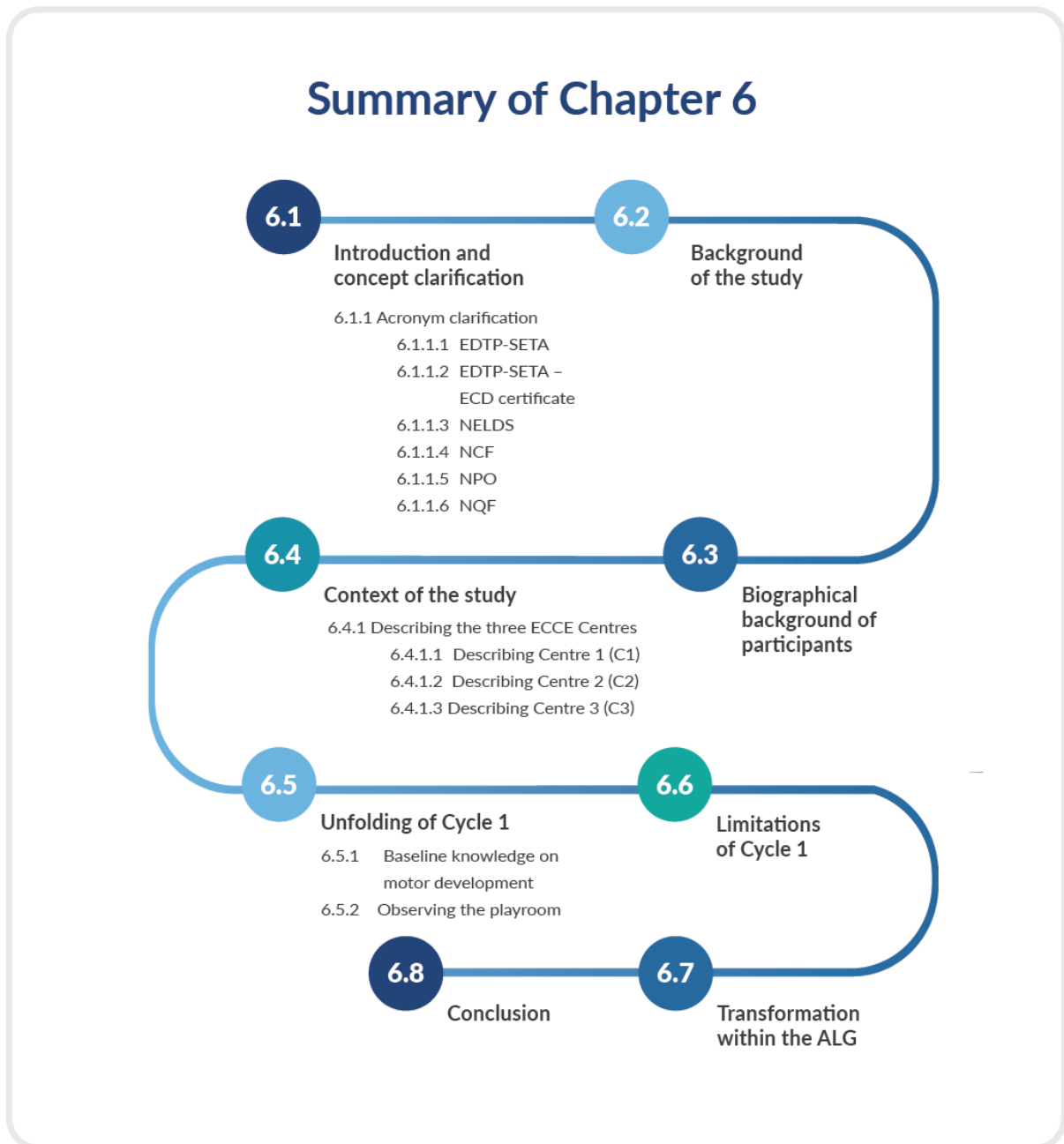


Figure 6-1: Chapter summary.

## 6.1 Introduction and acronym clarification

Chapter 5 focused on the methodological paradigm that was suitable for this study. The selection of participants and the data generation strategies applied were discussed as well. Chapter 6 focuses on Cycle 1 of the PALAR process to explore the co-researchers' views and current

knowledge of and skills in the motor development of babies. The first part of Cycle 1 of the PALAR process acted as baseline knowledge and is discussed as part of the background of the study. To better understand and ease the reading of this chapter, relevant acronyms are explained and recapped below.

### **6.1.1 Acronym clarification**

Before discussing the background of the study, I provide clarifications of some abbreviations and acronyms that are relevant to this chapter.

#### **6.1.1.1 EDTP-SETA**

“EDTP-SETA” is an abbreviation used for the Education, Training and Development Practices Sector Education and Training Authority. The SETA is mandated to facilitate and enhance the delivery of education, training, and development in order to enhance the skills profile of the education, training, and development sector and contribute to job creation specifically for those previously disadvantaged (EDTP-SETA, 2013).

#### **6.1.1.2 EDTP-SETA – ECD certificate**

The certificates offered by the EDTP-SETA on NQF Levels 4 and 5 are entry-level qualifications for those who want to enter the field of education, training, and development, specifically within the sub-field of ECD (EDTP-SETA, 2013). The co-researchers in this study all completed EDTP-SETA ECD certificates, and therefore, they have some knowledge about providing appropriate education, training, and development services in the ECD sub-field.

#### **6.1.1.3 NELDS**

The NELDS document is a policy called the *National Early Learning Development Standards* (DBE, 2009). This policy provides basic guidelines to initiate and promote early learning to stimulate holistic development and guide curriculum and material development for training programmes for children zero to four years old (DBE, 2009) (see Sections 1.1, 2.7).

#### **6.1.1.4 NCF**

The NCF is the *National Curriculum Framework for Children from Birth to Four* (DBE, 2015). The NCF is a set of guidelines focusing on stimulating early learning for young children from birth to four years of age and is used to develop training or course materials by various training organisations, including higher education institutions (DBE, 2015; Taylor et al., 2020) (see Sections 1.1, 1.11).

### **6.1.1.5 NPO**

An NPO is defined as a private, independent, or self-governed organisation set up to provide goods and services through voluntary participation to people. NPOs operate on the principle that profits are re-invested in the organisation and that no member will receive profits or losses from the entity (Buonomo et al., 2020). When referring to an NGO (non-governmental organisation), we usually also refer to an NPO, which is the term used to describe any not-for-profit entity; therefore, “NGO” and “NPO” can be used interchangeably (see Sections 2.5, 2.6).

### **6.1.1.6 NQF**

The National Qualifications Framework (NQF) is a set of principles and guidelines (formal system) that describe qualifications and what each qualification entails and record the credits assigned to each level of learning achievement in a formal way to ensure that the skills and knowledge that have been learnt are recognised throughout the country (see Section 2.8). Currently in South Africa, there are NQF Level 4 and 5 programmes in ECD, which are certificates offered by NGOs. NQF Level 4 is equal to a Grade 12 (matric), and NQF Level 5 is a higher certificate; both provide entry to higher education institution qualifications on NQF Level 6 (SAQA, 2020).

## **6.2 Background of the study**

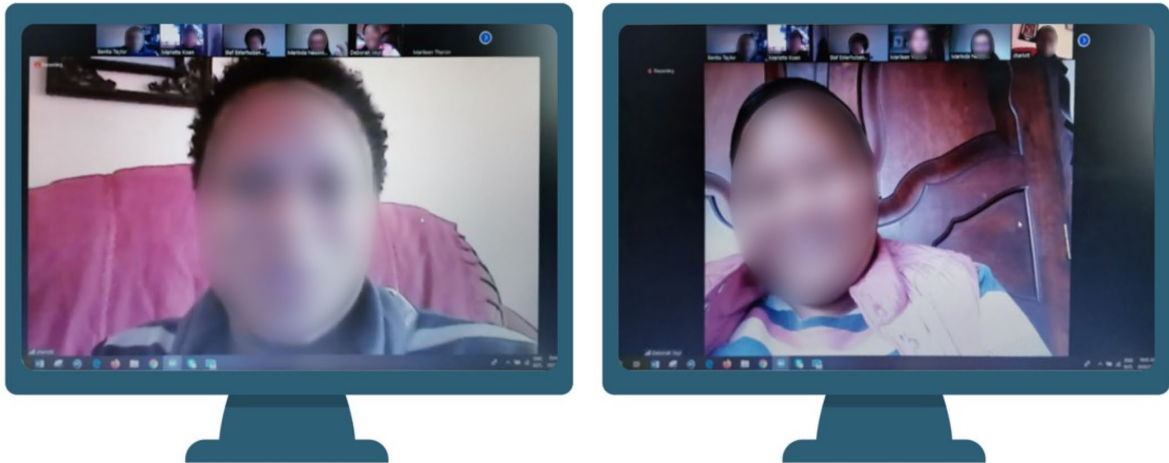
While working on the PIECCE project (see Section 1.2), I had the opportunity to visit various ECCE centres in different areas of South Africa. During one of my visits, I crossed paths with the gatekeeper of this study, as well as three centre managers, who later became the co-researchers of this study. I started developing a relationship with the gatekeeper early in 2019 through a charity project led by an independent trust organisation in the Kenneth Kaunda District in South Africa. This relationship led to an ethically approved project called “Early Childhood Care and Education: Building partnerships between teachers, caregivers and parents for the holistic development of children”, of which three university colleagues and I formed part. One of the proposed outcomes of this research project focused on the physical development of babies, unfolding in this research project with the title “Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach”. Baseline knowledge for this study started while working on the project “Early Childhood Care and Education: Building partnerships between teachers, caregivers and parents for the holistic development of children”.

At first, the gatekeeper arranged that we, as university lecturers, would meet her and three of her centre managers to discuss the possibilities of a project. We met on 11 March 2020 (pre-COVID), without realising this was the start of great relationship building for this doctoral study.

Furthermore, the gatekeeper reached out to seven potential participants, including the three centre managers, explaining the proposed research project and ensuring their voluntary participation in the named project as well as this doctoral study. Relationship building commenced, and all seven participants volunteered to collaborate and form part of the participatory study. Unfortunately, due to the COVID-19 pandemic and job changes, only the three centre managers stayed part of the research journey, and we formed an ALG working towards the same goal.

The participants as co-researchers signed consent forms (see Annexure C) to take part in this research study, and we started working as co-researchers. These consent forms were adapted during the research to comply with COVID-19 regulations (see WHO, 2020). On 26 March 2020, President Cyril Ramaphosa announced that South Africa, like the rest of the world, was facing a global pandemic, called the “Coronavirus disease of 2019” (COVID-19). South Africa was put on National Lockdown Level 5, which meant that all South Africans had to stay at home, and therefore, the ALG was not able to meet in person. All schools and ECD centres had to close for months to come. Because of the need, as indicated by the practitioners, to gain knowledge of the specific topic, I arranged a WhatsApp group meeting, and we, as the ALG, decided that the research needed to continue and that we would generate data electronically. After communicating with the gatekeeper, we decided on Zoom meetings to proceed with the research, and we (project) provided data for the online sessions. I supported the practitioners in the use of technology, guiding them through the different processes for the first time. A Google Drive space was created and used as an electronic platform to share information as needed and to upload relevant documents, such as the NCF and NELDS documents (see Section 2.6) of which the co-researchers, at that stage, did not have knowledge. I also sent these documents via e-mail to the co-researchers as further support in accessing these documents.

The Zoom meetings led to great relationship building, as we felt less isolated and could share our experiences and concerns during those challenging times. Besides the Zoom sessions, we used WhatsApp calls, video calls, and voice messages as reflections and online questionnaires. Zoom sessions became the norm to communicate and gather information towards our mutual goal. Collaboratively, we decided on holding Zoom sessions every fortnight to have informative discussions on the topic at hand.



**Photograph 6-1: Online Zoom discussion.**

Photograph 6-1 above depicts the ALG during an online Zoom meeting. The use of technology, unintended, became part of our critical transformative learning journey (see Section 1.7.3), as our skills and confidence developed for the better. The technology further became a support system among the co-researchers, where we could voice our challenges and frustrations during Lockdown Levels 2 to 5. The sharing of concerns regarding the lack of knowledge of and skills in the motor development of babies formed the foundation for collaboratively developing an EI (Cycle 3), which was the main objective of this study.

### **6.3 Biographical background of participants**

In order to be able to reach the mentioned objectives (see Section 1.6) of this study, originally, seven practitioners as participants and me, as the research facilitator, formed an action learning set or group (ALG), and Cycle 1 unfolded. Due to the COVID-19 pandemic, some of these practitioners got sick and some changed jobs, which are discussed in Cycle 2 when the challenges experienced are considered. Collaboratively, we discussed the possibility of recruiting new participants as co-researchers, but we all agreed that the research process was already in an advanced stage of creating knowledge and developing agency, and all of us were excited to proceed to compile the EI in Cycle 3. This means that the ALG ended up consisting of four members – myself, as the research facilitator, and three ECCE practitioners, who are also the centre managers of the three sites involved in this study. An online questionnaire was compiled (see Section 6.5.1). The questionnaire consisted of two sections – Section A and Section B. The seven responses to the online questionnaire completed by the ALG and Section B are summarised in Table 6-3 (see Section 6.5.1).

Section A consisted of the first 10 questions and aimed to gather biographical information to better understand the background of the practitioners as co-researchers. These included their gender, age, years of experience, qualifications obtained, home language, and learning and teaching language. Table 6-1 provides a summary of the biographical information of the centre managers who formed part of the study throughout and of the four participants who were initially part of the ALG, separately.

**Table 6-1: Summary of initial ALG biographical information.**

<b>Years of experience in ECCE centre</b>	<b>Qualification, NQF level and institution</b>	<b>Age</b>	<b>Gender of participants</b>	<b>Home language</b>	<b>Language of learning and teaching</b>
<b>Summary of the three ECCE managers (practitioners) who remained part of the ALG as co-researchers</b>					
Between 7 and 16 years	EDTP-SETA – ECD, NQF Level 4 and 5 certificate	Between 41 and 60	All female	IsiXhosa Setswana Afrikaans	English Setswana
<b>Summary of the four participants who were initially part of the ALG</b>					
Between 1 and 15 years	Three participants indicated no qualification One indicated a qualification completed at a local college	Between 20 and 50	All female	IsiXhosa Setswana Afrikaans	English Setswana

From Section A in this online questionnaire, we gathered that the three co-researchers, who were not only practitioners, but also centre managers, had been working within ECCE centres for between seven and 16 years. They are all women between the ages of 41 and 60, and all of them had completed an EDTP-SETA – ECD certificate on NQF Level 4 or 5, which gives them entry to an NQF Level 6 qualification at an institution of higher education.

The participants who were initially involved were practitioners working with babies under the supervision of the three co-researchers of this study. All four participants were between the ages of 20 and 50 years, with experience working with babies between one and 15 years. Three indicated no qualification, while the fourth indicated a qualification completed at a local college but could not provide more information.

Before the aim of this study could be reached, we focused on the understanding, knowledge, and skills the practitioners had of the motor development of babies in Cycle 1. In Cycle 2, we addressed the challenges they experienced that hampered the promotion of motor development of babies in their care. The iterative cycles of planning, acting, observing, and reflecting guided us as Cycle 3 unfolded, and we collaboratively developed an EI to equip practitioners with knowledge of and skills in the importance of the motor development of babies aged zero to 18 months.

**6.4 Context of the study**

The context of the study can also be referred to as the environment that has an influence and can either promote or hinder motor development in the early years (see Sections 1.2, 3.2.1). The constraining factor in the environment includes the structure and space of facilities used, natural disasters, diverse cultures, backgrounds of families, health circumstances, diverse parenting styles, and support from caregivers (see Section 3.1). Therefore, contextual knowledge and skills are necessary to improve practice and are relevant for the purpose of this study. The 3Rs and 7Cs as principles of PALAR (see Section 4.5.5) support creating knowledge and improving practice. For this reason, an EI that can offer training on the motor development of babies in a short space of time, linked to affordability, can support practitioners in better stimulating the motor skills of babies. Following is a summary of information on the sites where the co-researchers find themselves.

**Table 6-2: Outline of site information.**

Site (ECCE centre)	Site description	Number of practitioners at centre (site)	Number of children
Centre 1 (C1)	Premises very small, building well kept, clean facilities, a lack of space and resources to stimulate motor development	8, of which 2 work with the babies *Changed in 2022 to 1 working with 18 babies	189 18 (20) babies
Centre 2 (C2)	Limited space for babies, building well kept, clean facilities, a lack of space and resources to stimulate motor development	8, of which 1 works with the babies *2022 assistant employed to assist the practitioner	102 17 babies
Centre 3 (C3)	Limited space for babies, building well	10, of which 3 works with the babies	218 55 babies

Site (ECCE centre)	Site description	Number of practitioners at centre (site)	Number of children
	kept, clean facilities, a lack of space and resources to stimulate motor development		

Although the ECCE centres are clean and well kept, space is limited and general expenses are for their own account, with minimal support from the government. Due to limited space, physical activities, and specifically motor development, are restricted. The large numbers of children in the centres result in overcrowded playrooms (babies) and classrooms with a practitioner-child ratio that leaves little time for constructive stimulation.

The availability of resources also restricts development in the playroom, and during the COVID-19 pandemic, resources with the potential of spreading germs had to be locked away. This resulted in practitioners not having toys for stimulating the children’s holistic development. As part of the bigger project, we initiated an online workshop offered by Singakwenza, an NPO that trains practitioners, parents, and caregivers in using recycled materials to develop resources in this regard. The initiative had a positive outcome, as stated by one of the co-researchers –

*P2: We need a lot of knowledge and skills on physical activities on our babies and the toddlers, and we need to think outside of the box by using recycling materials, and that was a very helpful, uhm, workshop that we had [...] to make our own and new, uhm, creative, uhm, physical apparatus. And we need to set a good example for our teachers to be creative and not lazy to recycle.*

The focus of this study is zero- to 18-month-old babies, while ECCE refers to zero to four years; therefore, we will refer to ECCE centres even though children up to six years of age are cared for in these centres (see Section 1.2). The three sites (ECCE centres) included in this study are under-resourced centres situated in an informal settlement that includes inequalities in income distribution and limited access to basic services (see Section 1.8.4.1). For ease of reference, these centres and participants are referred to as Centre 1 (C1) and Participant 1 (P1), Centre 2 (C2) and Participant 2 (P2), and Centre 3 (C3) and Participant 3 (P3), even though these participants were actually co-researchers.

## 6.4.1 Description of the three ECCE centres

### 6.4.1.1 Description of Centre 1

**Centre 1 (C1)** is registered as an NPO but does not yet receive a subsidy (see Section 2.8). This centre started seven years ago at P1's personal brick house as a day-care centre. The sitting area was used to accommodate the centre, and eventually, the centre grew so big that the entire house was used as an ECCE centre and P1 and her family moved to another stand where they are living in a shack. Eventually, two extra rooms, a bathroom, and a kitchen were built at the back of the house, which left them with very little outdoor space. Currently, 189 children from three months old up to the age of six years are enrolled at C1 (see Table 6-2). P1 applied at the local municipality to buy the stand across the road from C1 to be able to expand the centre. She was granted permission but must pay rent for three years for the space before the title deed of the stand can be issued. Until then, she is not allowed to build on the stand; therefore, P1 has put up two shacks at this temporary centre where the six-year-olds are currently accommodated. There are also a playground and vegetable garden on this stand, but due to health and safety regulations (DSD, 2007), she is not allowed to take the younger children across the road from the original centre to use the play area, due to the risk of injury. This leaves them with little and limited outdoor space where the babies are accommodated.



**Photograph 6-2: Structure of C1.**

At the time of the study, the youngest baby that attended C1 was three months old, and the babies ranged between three and 24 months. Due to COVID-19 regulations, this centre divided the group of babies into two small rooms where they were kept safe and fed. Two unqualified practitioners are responsible for 10 babies each. When the COVID-19 regulations changed, one practitioner

resigned, and two babies also did not return to the centre. This left one practitioner looking after 18 babies housed in one room. The second room was then used for the 24- to 36-month-old group.



**Photograph 6-3: Playroom of babies at C1.**

There is an interlinked bathroom that is used for changing diapers and potty training the babies. Even though the changing of babies happens in a different room than where they stay for the day, it brings its own challenges because the practitioner has to leave the babies unattended to change one of the babies' diapers. P1 stated, *"I'm thinking my baby class, it is 3,8 x 3,8, and I'm housing 18 babies in that classroom."*

#### **6.4.1.2 Description of Centre 2**

**Centre 2 (C2)** is not a registered centre and, therefore, does not receive a subsidy, (see Section 2.8). Similar to C1, it only accommodates children from two months up to five years of age. P2 worked at another ECD centre before she started C2 and, therefore, has 14 years of experience in ECCE (see Table 6-2). C2 was started by P2 four years ago, in 2018, at a local church in two rooms built from concrete slabs at the back of the church. In 2021, the centre was moved to a brick house on the church grounds, which meant a little more indoor space, with toilets and a kitchen in one building. The outdoor area is paved, and no grass or allocated play areas with jungle gyms and sand pits are available for the babies. Furthermore, even though they have limited balls available, there are no other resources to promote motor development, such as hoops or beanbags, to play with outside. When going outside, there are no structured activities;

the practitioners of the different age groups sit and watch the babies and children running, crawling, or sitting outside.



**Photograph 6-4: Structure of C2.**

The baby room accommodates babies from two months up to 24 months. The babies are cared for and changed in a small room and are allowed outside to play and move around for small periods of time. This room is utilised as the playroom, changing room, and eating room, all in the same small space. The room has two small tables, where some of the babies who have started eating by themselves can sit, and a small piece of “puzzle carpet” where they do everything else. There is also a changing station in this room, where diapers are changed.



**Photograph 6-5: Playroom of babies at C2.**

One practitioner, without a qualification, is responsible for all 17 babies. In 2022, an assistant, with an EDTP-SETA Level 4 qualification, was employed to assist the practitioner after P2 realised the importance of the babies being stimulated.

#### **6.4.1.3 Description of Centre 3**

In 2006, 16 years ago, **Centre 3 (C3)** was started in the garage of P3's home. The centre expanded, and P3 built a shack next to the garage. In 2017, C3 moved to a brick building with, currently (2022), seven classrooms and an established vegetable garden. C3 grew to 218 children between the age of six months and six years. With a lot of help from various organisations, as well as hard work from the staff, the outdoor area allows for the motor development of children. However, it is still limited in terms of babies moving around freely, as they cannot yet all play on all the outdoor equipment without supervision, and supervising 55 babies on outdoor equipment is not an easy task. The outdoor area is big and provides opportunities for the motor development of older children, from two years and older, who can already climb on jungle gyms and outdoor apparatus.





**Photograph 6-6: Structure of C3.**

This centre accommodates 55 babies between the age of six and 24 months in one big room where they are changed, kept safe, and fed, with very little stimulation, all in the same room. Even though there is a small bathroom in the playroom, the toilet is only used by the babies who start potty training. The other babies are changed in the baby room, where they also eat, sleep, and play. Initially, there were two practitioners, but in 2022, a third practitioner was employed to assist

with the babies. Therefore, there are three unqualified practitioners in the baby room who are responsible for 55 babies.



**Photograph 6-7: Playroom for babies at C3.**

At all three centres, the babies get a meal twice a day, even though only C1 and C3 receive financial support to feed the children at the centre. Nutritious meals are important to help babies grow and develop physically. If children do not receive nutritious food, they will not grow and develop like they are supposed to, as set out in milestones for babies.

What follows is the unfolding of Cycle 1, including the relationship building between the co-researchers and the generation of baseline data for the purpose of gaining an understanding of the practitioners' current knowledge of and skills in the motor development of babies.

## **6.5 Unfolding of Cycle 1**

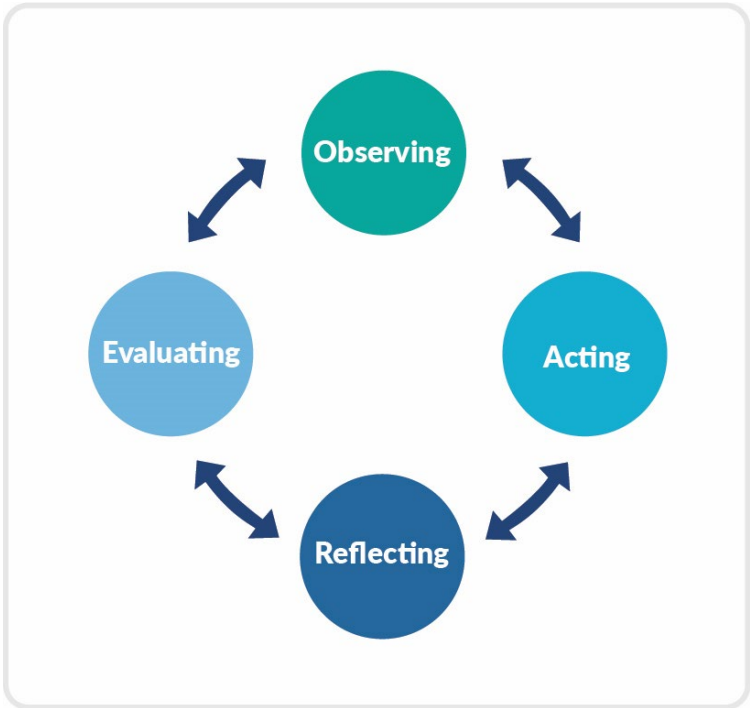
Each ALG meeting started with a relationship-building activity in the form of an informal conversation among the members. I explained that we would work in a democratic way and collaborate as co-researchers because we all wanted to learn from one another. Although we knew one another, it is important to note that we could only learn from one another and understand one another's views if we established a relationship of trust, which is crucial for the success of the PALAR process (see Wood, 2020) (see Section 4.4). Therefore, it was important to choose a safe space at the centres to meet face to face, where everybody felt comfortable to share their

own views, knowledge, and skills. We negotiated our different roles through informal conversation, by answering specific questions, like the following suggested by Wood (2020):

- Who are we?
- Why do we want to do this?
- What do we want to learn from this study?
- What do you want us to do in this study?
- What do you bring to this study?
- What do you wish to gain during the study?
- How would you describe each co-researcher’s role?

As we answered these questions, we realised that we were all “there” for the same reason – to learn about motor development – and that we are “there” to support one another. It was evident from the start that we needed to see and understand one another’s context and circumstances.

Cycle 1 followed the process of observing, planning, acting, reflecting on, and evaluating our previous discussions (see Zuber-Skerritt & Wood, 2019) (see Sections 5.1, 5.4.3) to address the first secondary question: *What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements on the motor development of babies aged zero to 18 months?*



**Figure 6-2:** The complete process in Cycle 1.

The ALG meetings of Cycle 1 that followed took place electronically due to the lockdown regulations. From March 2020 until March 2021, the lockdown regulations were often adjusted based on infection statistics (DoH, 2020). Each time the adjusted level was announced, we needed to adjust the consent forms and re-apply for ethical clearance, moving between only electronic meetings to face-to-face meetings and visits to the ECCE centres.

In order to enable us to answer the first secondary research question, we started with baseline information (see more detail in Section 6.5.1) to explore the ECCE practitioners' existing knowledge of and skills in the motor development of babies. After sharing our understanding of the topic at hand, I showed the co-researchers a few videos on motor development and the importance thereof in the development of children. The co-researchers started getting excited to form part of this important aspect and started thinking creatively about stimulating activities in their small play spaces. They felt that the newly found knowledge should be shared in the bigger community, and we decided to collaboratively develop an EI that could be presented to practitioners as a tool to promote the motor development of babies in under-resourced ECCE centres in informal settlements.

### **6.5.1 Baseline knowledge of motor development**

The aim of the baseline knowledge was to establish what the existing knowledge of the co-researchers was on the motor development of babies aged zero to 18 months. The overall answer was that they took care of the babies and did not know what else to do. Taking care of the babies in their care means that they are kept safe, their diapers are changed, and they are fed. This, to me, was a clear indication that there was a need to guide these practitioners in developing activities to stimulate the babies in their care as babies' progression depends on stimulation and support from the ecological system (Paul & Singh, 2020) (see Section 3.2).

The first meeting with the participants of our project already opened my eyes to "their" world, because I do not come from an informal settlement and have not been exposed to what the co-researchers have been. These co-researchers felt that they did not have enough knowledge, skills, and values to identify and work with children with barriers. They were also of the opinion that parents were not willing to "hear" that their children were not developing as they should.

A few questions arose, for example:

- What knowledge do practitioners in general have of the NELDS and NCF documents?
- What is the physical development of babies?
- What is the gross and fine motor development of babies?
- What are milestones in children's development?

- Do practitioners know what to do in their centres to accommodate children who are not reaching their milestones?
- Can practitioners identify a developmental barrier? If so, how will they convey the information to the parents?
- Do practitioners know what the barrier is and to whom the child should be referred?
- Do practitioners only take care of babies' basic needs? Do they know what they can do to stimulate the development of babies in their care?
- How can practitioners be confident to inform parents and guide them to help their children holistically develop to the fullest?
- How can we assist practitioners to gain knowledge, skills, and values to know what the babies in front of them are supposed to be able to do?

The questions that arose were overwhelming, and we started with online discussions, using Zoom. During these discussions, it came to our attention that there was a knowledge gap on what the NELDS and NCF documents were and how they should be used. I decided to explore what knowledge the co-researchers had on the motor development of babies to better understand what we knew and how we could link the knowledge that we had with using the guiding documents. As we were still not allowed to meet face to face and with the above questions in mind, I decided to strengthen Cycle 1 with an online questionnaire, as mentioned in Section 6.3 (see Annexure G). This questionnaire would assist me in gathering biographical and baseline information, including site information on the co-researchers' knowledge of what the motor development of babies entailed. I assisted the co-researchers via WhatsApp calls in accessing and completing these forms. The feedback on the online form was anonymous, and therefore, no answer could be linked to a participant.

Section B of the online questionnaire consisted of seven questions where the co-researchers had to explain in their own words what they thought physical development, motor development, and gross and fine motor skills were and why they thought it was important to develop these skills from a very young age. A follow-up questionnaire was sent out again to get the latest years' experience and qualifications from the co-researchers, as these could have changed between the onset of this study and the finalisation.

The table below includes the responses of all seven initial participants (see Section 5.2).

**Table 6-3: Online questionnaire responses.**

<b>11. In your own words, describe what the physical development of babies is.</b>
--

*Physical development is the ability to grow small and big muscle[s].*

*It is motor development when they train their whole body.*

*Physical development is to make their muscles strong.*

*Touching, body shaking, crawling.*

*Maybe open close hand / close hands / waving / lifting legs when laying on their backs.*

*I don't know.*

*Providing love and joy.*

**12. In your own words, describe what gross motor development means.**

*Gross motor development means using arms, legs by jumping climbing using big muscles.*

*Lage muscles development.*

*It is large muscle development.*

*No I don't know.*

*Lift up hands/arms/open & close legs.*

*Developing muscles and bones.*

*Showing the kids how to do activities that strengthen their muscles.*

**13. In your own words, describe what fine motor development means.**

*Fine motor development means to make movements using small muscles like fingers and toes.*

*Small muscles development.*

*It is small muscles development.*

*I don't know.*

*Tearing papers / picking up object[s].*

*I don't know.*

*Developing their eye sight, hearing and touching.*

**14. Why do you think it is important for babies to develop fine motor skills?**

*Because they would be able to finish important tasks [such] as writing, feeding themselves as they develop.*

*Because they need to use there [sic] fine motor skills in the future like there [sic] fingers needs [sic] to work to use their hands.*

*To make them strong so that they can use small muscles development in the future.*

*Don't.*

*We will see that the baby is growing // skills are developing // mothers see if my baby is growing.*

*Because they can see, they play and listen. They are also able to defferentiate [sic] colors and shapes.*

*To be able to identify their weaknesses and help them accordingly.*

**15. Why do you think it is important for babies to develop big motor skills?**

*It help[s] them gain strength and confidence in using their bodies.  
 So that their muscles can move and be healthy and so that they can use their body.  
 To build there [sic] bodies so they can be strong.  
 For us to see if they can do certain things on their own, or they learning [sic].  
 Again to see the growth of the baby.  
 They are able to strengthen muscles.  
 To strengthen their muscles.*

**16. Would you like to learn more about fine and gross motor development activities for babies? If the answer is “yes”, please explain why you said yes.**

*Yes because the[re] is still more I need to understand, learn and apply in babies for them to develop physically.  
 Yes the more you learn the best you will be in teaching not just teaching with your own kids at home.  
 Yes because I am working with babies and need to learn more.  
 Yes.  
 Yes – because one day I will have my own grand children I want to see how they are growing.  
 Yes, because I have knowledge and it is important that I gain knowledge.  
 No.*

**17. What are the challenges that you experience with the motor development of babies at your centre?**

*Babies are delayed physically and need to have more activities that will encourage physical development.  
 Babies is a lot of work and babies needs [sic] the teacher more and the teacher is the role model.  
 Babies needs [sic] more attention so that they can be strong.  
 They dont [sic] listen, you have to be patient with them.  
 No lot of resources like balls // big balls // see-saw // no equipment.  
 Some children don't listen they want to do what they want, at a time that they want.  
 Children coming with rashes from home, hindering them from doing activities in class.*

The table above indicates that the participants saw physical development as big and small muscle development but did not understand yet that motor development consists of fine motor development and gross motor development, which are components of physical development (see Sections 3.1, 3.3). They mostly understood that gross motor development refers to the use of big muscles, such as the arms and legs, and fine motor development refers to the use of small muscles, such as the fingers (see Section 3.3.1). All the participants except one indicated that they would want to learn more about fine and gross motor development activities for babies.

Cycle 2 incidentally became interlinked with Cycle 1, and from the online questionnaire, various challenges that the practitioners experienced with the motor development of babies came to light. These responses suggest that motor development is hindered and few resources are available to stimulate the motor development of babies, which are further discussed in Cycle 2. The practitioners were honest in admitting that they did not know what to do with babies in their care other than keeping them safe and fed. This was already clear in the baseline cycle when the ALG met for the first time and became clearer with each informative discussion we had.

*P1: We opt to play anything or maybe just holding the baby, the sleeping [sic], giving the baby food and that time maybe saying [sic] a story to them, singing for them, but we don't really stimulate them.*

In order to be able to identify barriers, refer children, or even speak to parents about their children, practitioners need knowledge of and skills in the development of babies. Because of these questions that arose, it became evident that we needed to develop knowledge of and skills in the development of babies in ECCE centres. Taking care of the babies in their care means that they are kept safe, their diapers are changed, and they are fed. This, to me, was a clear indication that there was a need to guide these practitioners in developing activities to stimulate the babies in their care (see Section 1.6). Because motor development forms the foundation for all developmental areas, we decided to focus on gaining knowledge of and skills in promoting the motor development of babies (see Section 3.2).

### **6.5.2 Observing the playroom**

In trying to establish what the practitioners' knowledge and skills on the motor development of babies were, I decided to observe the baby playroom in each centre to see what activities the practitioners did with the babies. On Alert Level 1, I was allowed to enter the centres under strict COVID-19 regulations. I wore a mask, sat close to the window and did not interact with the babies in the playroom; I merely observed the practitioner's actions. All three playrooms were very crowded, and diaper changing, activities, and eating all took place in the same space.

While still planning the best way to go about the observation, some questions and discussions collaboratively emerged. These were as follows:

- **Where does motor development fit into the babies' daily programme?**

All practitioners have planning files available, but, in general, motor development activities are lacking. We came to realise that in these planning files, there were no stimulating activities for babies specifically, but the planning for the older children in the centre was used and adapted for

the babies. For example, if the theme of the week for the six-year-olds is “my house”, they use the theme “my house” for the babies as well. The theme is discussed in the playroom, but the activities are not developmentally appropriate because the focus is on the ability of older children who are able to physically and cognitively do more than babies.

In two of these centres, there are planned daily programmes available in the baby playrooms, and these programmes are put on the wall for the practitioners to follow. The third centre does not have a daily programme and, therefore, only takes care of the babies’ daily immediate needs, such as feeding and diaper changing, as put out in a daily programme.

- **Do we need a planning file with different in- and outdoor activities to stimulate the motor development of the babies?**

The practitioners have limited knowledge and skills on what gross and fine motor development is and what they can do to stimulate these skills. The babies are placed in a room where they stay for most of the day; they are kept inside and taken care of very well, but movement is restricted because of the limited space in the playroom. I noticed that during activities, the stimulation of the babies’ senses was not included, nor did the practitioners attempt to let the babies use their bodies and touch or feel objects to stimulate development. No physical movement other than getting up and sitting down (if they are able to) was involved in any activities.

- **How can we assess or what assessment tool can we use to evaluate whether babies reach their milestones?**

The developmental guidelines in the NCF (DBE, 2015) include broad assessment guidelines that can be adapted for the specific context to evaluate whether the developmental guidelines (milestones) have been reached (see Section 3.2). While still planning the best working way, I requested to see what the observation tool looks like to see how the babies are evaluated. No evidence of continuous evaluation was available, but these reports are completed for each baby at the end of the term. Unfortunately, it is a general report adapted from the three- to four-year-old group assessment reports that does not make provision for the different ages in the baby playroom. For example, the babies who were nine months old could possibly walk but would not be able to kick a ball, which is one of the outcomes in the assessment report for all babies and toddlers without any adjustments. Therefore, it would seem to someone without knowledge of the development of babies that this baby is supposed to kick a ball but is not able to.

After our discussions focusing on the questions mentioned above, we concluded that the practitioners predominantly took care of babies and needed guidance in developing their fine and

gross motor skills as there were many opportunities related to the weekly themes and songs to develop these skills. We further agreed that the practitioners lacked training in this regard and, therefore, the ability to recognise opportunities to incorporate motor development activities during lessons. The co-researchers came to realise how important it is to create a developmentally appropriate assessment tool for babies. We also agreed that it could be of great value if the practitioners could have access to a tool in the form of a guiding document to direct them in ways to integrate activities in the daily programmes to stimulate the motor development of babies. This was then the first idea to develop the EI collaboratively in Cycle 3.

After discussing my observations in the baby playrooms at all three centres with the co-researchers, I requested the co-researchers to observe the practitioners in action for a period of two weeks. Their role was purely to observe, not to help with activities or feeding babies, and so forth. We then also had an informative discussion on what happened in the playrooms daily and wrote a collaborative reflection on the observations. Below are a few reflections.

*P1: I was just there to observe.*

*Collaborative reflection:*

*When showing the children this house made from different shapes she only points to the shape and says to the babies, what is this.*

*She was showing them the tops asking “what colour is this” by holding the top in the air. Then they would all together say “blue” and then move onto the next colour.*

*The babies didn’t touch and feel once or used their bodies to look at colour or shape. For example, when picking a red bottle top, she could show them all the red clothing that babies were wearing.*

*She also did days of the week as an activity. All babies sitting in their hoolas, practitioner standing in front pointing at the day and saying the day.*

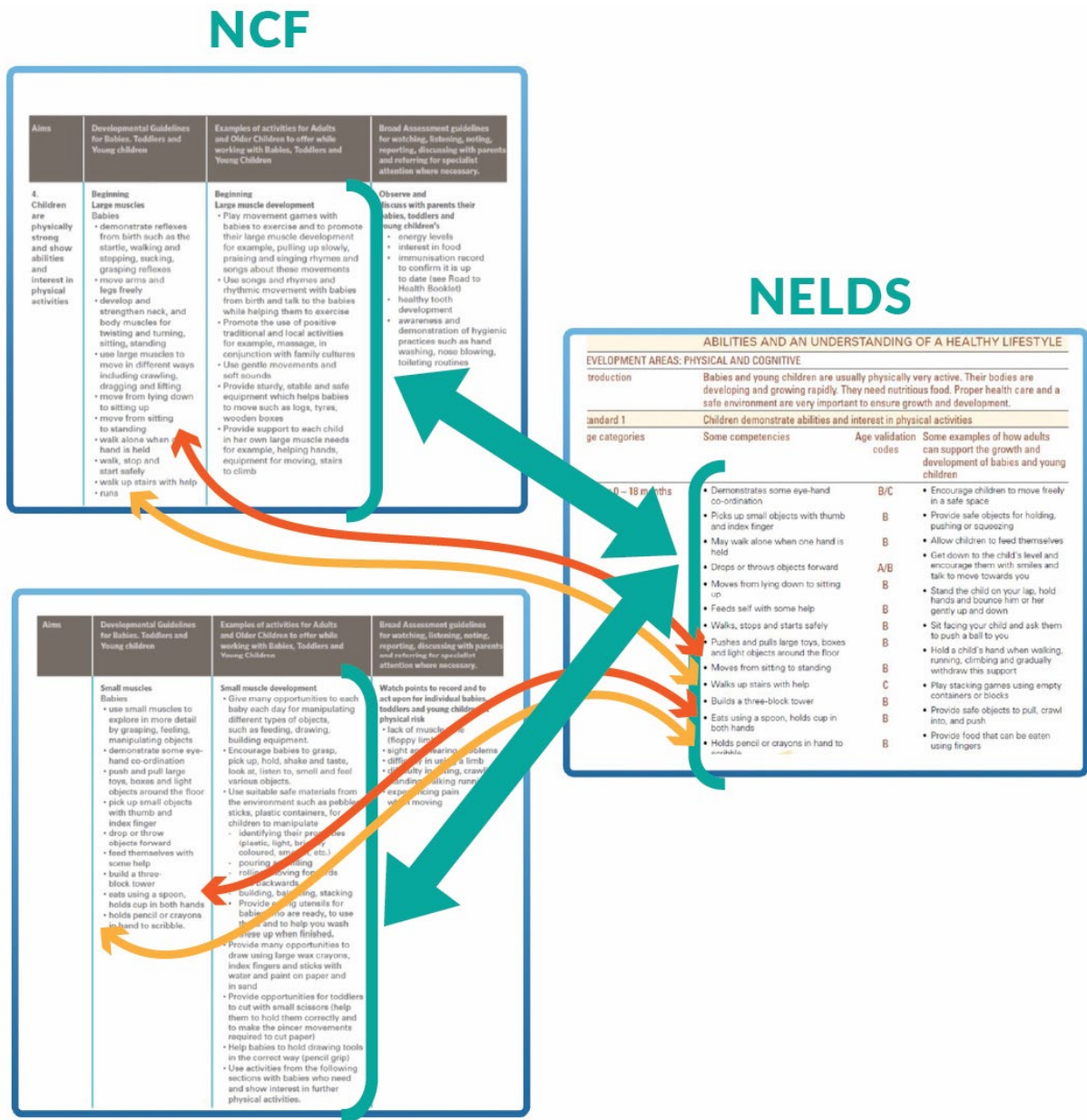
- **Informal discussions after observation**

In the baseline data (see Section 6.2), the knowledge gap with regard to the NCF and NELDS documents stood out, and I introduced these documents to the co-researchers. After observations took place, an informal discussion with the co-researchers brought to light that there was still a gap in their knowledge of these documents, as only one co-researcher was aware that there were

different developmental levels that should be considered when doing activities with babies. From the reflections and informal discussions, the co-researchers confirmed what I had observed in the playroom, that is, that themes and activities for the babies were taken from the activities that were provided to them for the Grade R (6-year-old) group by an NPO. These themes and activities are used for all age groups, as they do not have anything else to work from. This supported what I observed in the playrooms.

- **Plan of action: document analysis**

Initially, as the baseline data were gathered, it was clear that the co-researchers were not aware of the NCF and NELDS documents, created by the South African Department of Education, which had been developed to use as guidelines to ensure that stimulating activities are provided for the babies in their care. During the pre-cycle (baseline data), I asked the participants if they knew about these documents. One responded that she knew about it, but she was not sure how to use it; the others did not know about it. Even though I introduced the NELDS and NCF documents in our Zoom meetings, it was clear that the co-researchers still were not sure how to integrate the documents into their lessons. I made appointments with each to support them in this regard. As the research facilitator, I drew a few activities from the NELDS and NCF to explain the integration of the documents with the lesson plan (see Section 3.3.2, Tables 3-3, 3-4).



**Figure 6-3: Example of correlation between NCF and NELDS.**

During the following ALG discussion, we collaboratively took activities from the documents and added activity instructions and resources to the planned lessons to guide and stimulate the motor development of babies in the ECCE centre in an attempt to see whether we all understood the guidelines. I had individual follow-up sessions with the co-researchers at the centres to prevent any uncertainties on this subject. Individual and group sessions on document analysis of how the NELDS and NCF can be integrated into daily lesson planning are depicted in Figure 6-3.



**Photograph 6-8: Document analysis.**

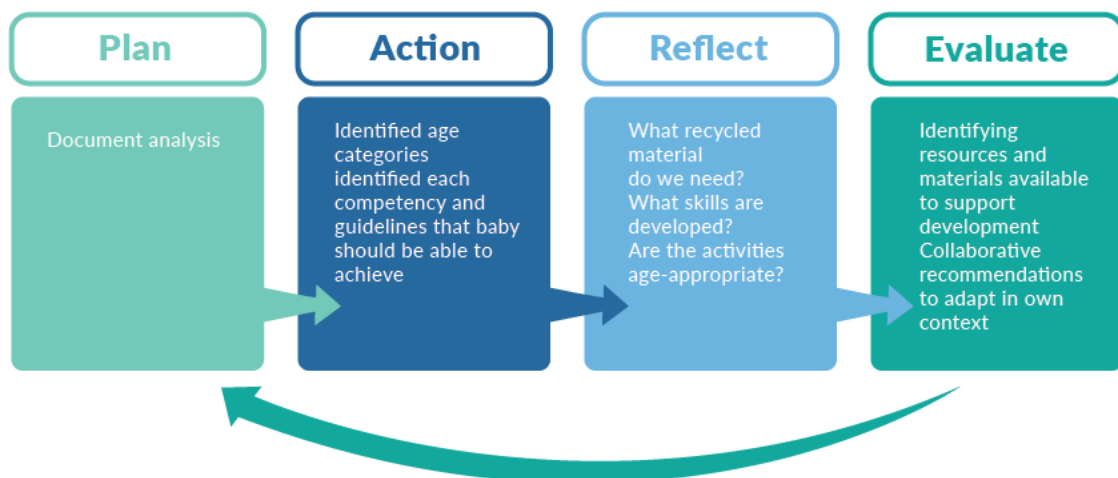
- **Rethinking the planning process**

Since the practitioners were not familiar with the content of the NELDS and NCF and struggled to integrate it into their lesson planning, we rethought the process and collaboratively decided to begin by highlighting the age categories as set out in the NELDS document. We also revised the guiding activities that could be adapted for different contexts and themes. The NELDS and NCF are all-encompassing and well-planned documents that can be overwhelming. With this in mind, we decided to break them down into smaller parts by looking at each competency (milestones as indicated in the NELDS) and developmental guideline (milestones as indicated in the NCF) as set out under the desired result and developmental guideline area of the NELDS (DBE, 2009), as well as the developmental guidelines aims of the NCF (DBE, 2015), under which motor development resonates. It was important to understand the competencies and guidelines set out in these documents and understand how to integrate them when creating stimulating activities to

develop a baby’s motor skills. Knowledge gained of the abovementioned competencies and guidelines identified for babies aged zero to 18 months formed the foundation for the EI that we developed collaboratively in Cycle 3.

As these ECCE centres were under-resourced and lacked financial support, we decided that we had to explore other options to obtain free resources. Knowledge gained in pre-Cycle 1 from the Singakwenza workshop (see Section 6.4) led us to think about how we could identify recycled materials to make resources. We identified available resources that included recycled materials and existing resources that were available in the centre, for example building blocks and counters, that could be used for stimulating the motor development of babies. We discussed specific activities and resources and collaboratively made practical recommendations and adaptations for our own centre contexts, keeping the safety of the babies in mind. This was not yet developing the EI as such, but a process of gaining knowledge about the guiding documents while planning, acting, reflecting, and evaluating the collaborative activities developed that contributed to the end result of compiling the EI.

The guiding documents led us to the action of gaining knowledge to be able to identify age categories and integrating each competency and guideline to understand what skills the babies should achieve. Then we looked back and reflected on what recycled materials were needed and were available in the specific context to create appropriate resources, to be able to do an activity and reflect whether the suggested activities were age-appropriate and what skills were developed through the mentioned activities. Lastly, we evaluated whether the resources and materials available and identified were age-appropriate and relevant to use to support the motor development of babies, after which we made recommendations in the ALG to adapt or improve what we had originally planned to ensure it is context-specific.



**Figure 6-4:** Depicts this process of planning, acting, reflecting, and evaluating.

## **6.6 Limitations of Cycle 1**

This cycle stretched over a long period because of the COVID-19 restrictions, accompanied by challenges and emotions because of the uncertain times we were facing in the country. Contributing to the challenges were demands that included the learning of new technology and policy documents to enable us to give shape to the research project. Limited observation could take place in identifying the strengths and weaknesses of the environment and the skills of the practitioners to promote motor development within the baby playrooms. The co-researchers struggled to keep a reflective journal on the implementation of the activities due to time limitations. Therefore, I, as the research facilitator, kept a collaborative journal, in which I tried to capture all the reflections in the sessions to avoid frustration and putting additional pressure on the co-researchers.

## **6.7 Transformation within the ALG**

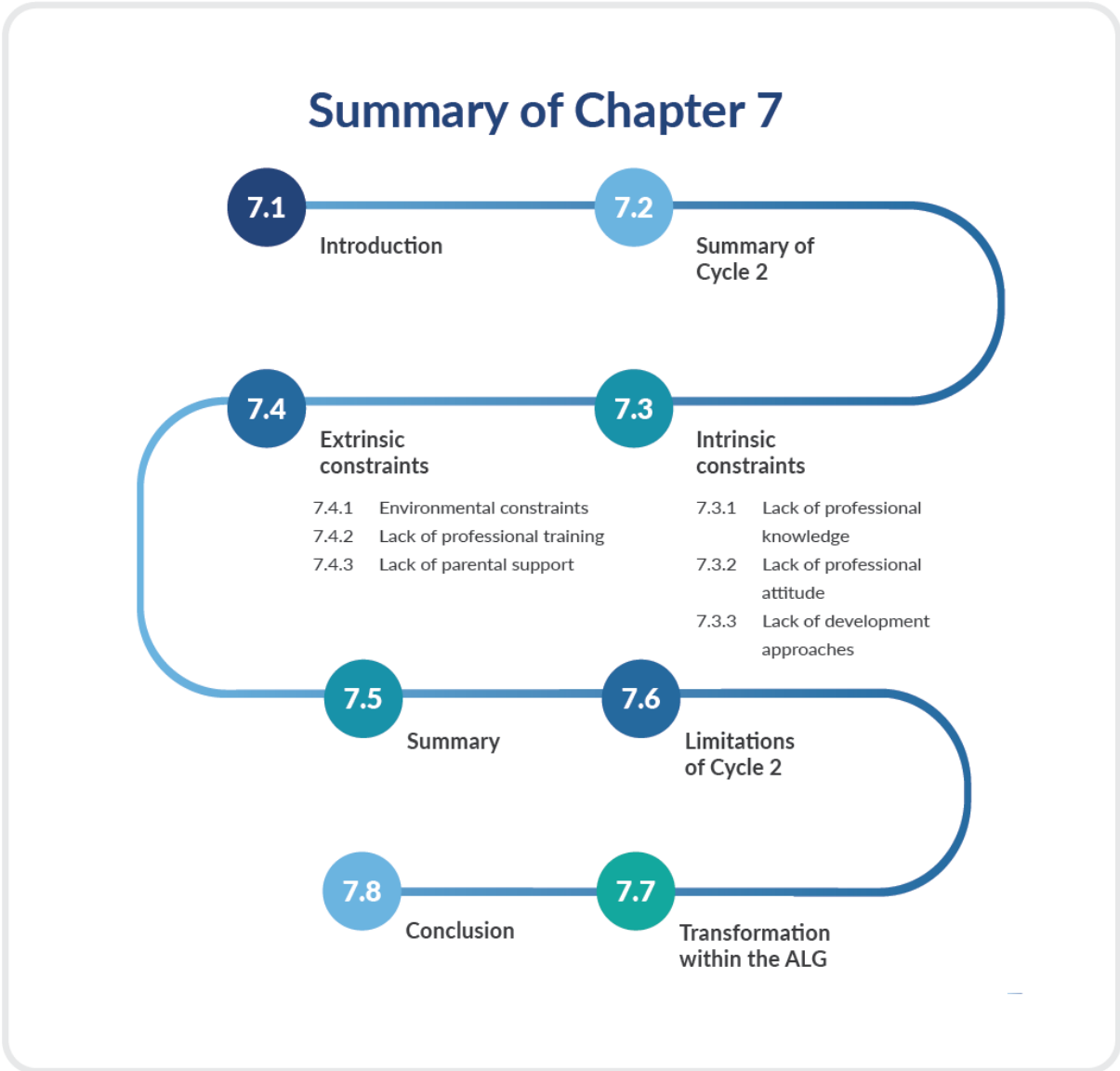
From the first meeting, all the co-researchers were very positive, and we were all excited to collaboratively enhance our knowledge of and skills in promoting the motor development of babies. We made an effort to view things through one another's lenses, listening to one another, and respecting and recognising one another's knowledge brought to the group while trying to understand the diverse contexts in which we all found ourselves. Mutual respect and equality were established by meeting online once a month throughout the pandemic. A democratic, authentic, trusting, and supportive relationship was developed among the co-researchers, in line with Wood's (2022) suggestion. Through this collaborative process, the co-researchers gained confidence in their own ability to contribute to the outcome of the research. The ALG gained knowledge of the importance of the motor development of babies. The members of the ALG became aware that it was necessary to stimulate the motor development of babies through document analysis and informal discussions within the ALG. We became friends and colleagues, trusting one another and working collaboratively towards the same goal.

## **6.8 Conclusion**

In this cycle, we explored what knowledge and skills the ECCE practitioners had on promoting the motor development of babies within an informal settlement context. The ALG collaborated in analysing the NELDS and NCF documents that were published by the government (DBE, 2009, 2015) to guide practitioners, NPOs, universities, and so forth, in training the ECCE workforce to holistically develop babies, toddlers, and young children. We gained knowledge on the competencies (NELDS) and developmental guidelines (NCF) (see Sections 1.1, 1.11, 2.7, 6.1.4, 6.5.2, Figure 6-3) set out in these documents that guided us in identifying which competencies

should be reached in the specific age category of the babies (0-18 months) in the ECCE playroom. Collaboratively, we reflected on and learnt how to integrate these competencies and guidelines to stimulate motor development. While exploring these possibilities, many challenges that could influence the motor development of babies, experienced by ECCE practitioners in informal settlements, came to light. The iterative cycles of observing, planning, acting, reflecting, and evaluating guided us as Cycle 2 unfolded.

**CHAPTER 7 CYCLE 2: EXPLORING CHALLENGES INFLUENCING STIMULATION OF MOTOR DEVELOPMENT**



**Figure 7-1: Chapter summary.**

**7.1 Introduction**

In Cycle 1, we explored the ECCE practitioners’ existing knowledge of and skills in the motor development of babies. Cycle 2 unfolded throughout the study, exploring challenges that are experienced in ECCE centres, which influence stimulating the motor development of babies. A follow-up session was held to ensure that I, as the research facilitator, captured the voices and reality of the co-researcher accurately. Working collaboratively and through discussions with my

co-researchers, my eyes were opened to many challenges they have to face, as my context and environment are very different from that of my co-researchers.

Gallahue's (1998) hourglass model of motor development highlights how the interaction among changing constraints, including the individual, the environment, and the task, influences motor development (see Section 3.2.1). Keeping this in mind, practitioners who work with babies have various intrinsic and extrinsic constraints that play a pivotal role in developing the babies in their care. Through informative discussions in the ALG, we identified intrinsic and extrinsic constraints (themes) collaboratively and came to realise how these constraints influenced what we were supposed to do. Therefore, in this cycle, the constraints (challenges) experienced – intrinsic and extrinsic – influencing the task of stimulating the motor development of babies were identified by the co-researchers as ECCE centre managers and practitioners as individuals working with babies in an informal settlement environment.

## **7.2 Summary of Cycle 2**

Cycle 2 resumed with relationship building, and the ALG reflected and revisited Cycle 1 iteratively and addressed the second research question: *What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements on the motor development of babies aged zero to 18 months?*

The co-researchers had the opportunity in Cycle 2 to share their intrinsic and extrinsic challenges experienced in an informal settlement during the global COVID-19 pandemic. The informal discussions in this cycle led me to better understand the context of this study because it is different from my living context. The challenges experienced by the practitioners either directly or indirectly affect the promotion of the motor development of babies in their care at the ECCE centre where they work.

We identified and reflected on the challenges the practitioners experienced daily in under-resourced ECCE centres that could hamper the babies' motor development. The iterative cycles of planning, acting, reflecting, and identifying guided us in identifying the intrinsic and extrinsic challenges that the practitioners were confronted with to promote the motor development of babies. Finger and Houquet (2009) describe intrinsic challenges as challenges that practitioners may face on a personal level, such as a lack of professional knowledge and understanding of the intended curriculum, which can lead to a lack of professional attitude and teaching approaches. Furthermore, extrinsic challenges are related to environmental factors, such as a lack of resources, that may hinder development processes (Finger & Houquet, 2009).

This process of identifying intrinsic and extrinsic constraints unintentionally started emerging in the Zoom meetings in Cycle 1. It unfolded with informative discussions in the ALG and an online questionnaire to support the second secondary research question. All the codes emerged, and we clustered these codes under a relevant theme that relates to the constraint.

Tabled below are the intrinsic and extrinsic constraints identified as themes in this cycle.

**Table 7-1: Themes identified.**

Constraints	Themes	Codes
<b>Intrinsic constraints</b>	Lack of professional knowledge (see Section 7.3.1)	<b>Lack of knowledge</b> of how to use guidelines available to stimulate motor development
		<b>Lack of knowledge</b> of how to promote the motor development of babies in informal settlements
	Lack of professional attitude (see Section 7.3.2)	<b>Lack of motivation</b> – practitioners lack the motivation to stimulate babies because they do not know what to do and do not know how important it is to do so. this regard
		<b>Lack of commitment</b> to developing babies, due to limited knowledge and low remuneration
		<b>Lack of loyalty</b> among practitioners, low remuneration and motivation; practitioners are not loyal and leave the centre, which influences the motor development of babies
	Lack of development approaches (see Section 7.3.3)	<b>Lack of creativity</b> due to a lack of knowledge, motivation, and commitment influences the motor development of babies
		<b>Lack of language proficiency</b> – the language of learning and teaching is English, i.e. the second or third language of practitioners
<b>Extrinsic constraints</b>	Environmental factors (see Section 7.4.1)	<b>Informal settlement</b> – impoverished communities

Constraints	Themes	Codes
(socio-economic challenges)		influence the motor development of babies
		<b>Little space</b> for motor development
		<b>No or limited resources</b> for practitioners to use to stimulate motor development
		<b>Natural disaster</b> – COVID-19 pandemic negatively influenced the development of babies
	Lack of professional training (see Section 7.4.2)	<b>Limited opportunity for training</b> for workforce working with 0- to 4-year-olds leads to a lack of professional knowledge and attitude
		<b>Unqualified</b> practitioners lead to a lack of professional knowledge and a lack of professional attitude to promote motor development
		<b>Low remuneration</b> due to an unqualified, untrained workforce leads to a lack of professional attitude
		<b>Turnover of staff</b> due to lack of professional attitude to promote motor development
	Lack of parental support (see Section 7.4.3)	<b>Lack of parental involvement</b> to promote the motor development of babies collaboratively
		<b>Lack of parental commitment</b> to pay school fees
		<b>Turnover of babies</b> as due to lack of paying school fees, babies are moved to other centres

**7.3 Intrinsic constraints**

Intrinsic constraints that may hinder practitioners to stimulate motor development include but are not limited to a lack of professional knowledge, a lack of professional attitude, and a lack of development approaches.

**Table 7-2: Intrinsic constraints.**

Lack of professional knowledge	Lack of professional attitude	Lack of development approaches
Using guidelines	Lack of motivation	Lack of creativity
Promoting motor development in an informal settlement	Lack of commitment	Lack of language proficiency
	Lack of loyalty among practitioners	

**7.3.1 Lack of professional knowledge**

From establishing the current knowledge and skills levels (see Sections 1.4.2, 1.7.2.2, 6.5) of the ECCE practitioners on promoting the motor development of babies, it was clear that they lacked professional knowledge. In Cycle 1, it was evident that they were not aware of the guidelines (NELDS and NCF) available to stimulate motor development and, moreover, did not know how to use them due to environmental constraints, such as limited training opportunities and various individual constraints they experienced (see Sections 6.5.2, 6.8). Their lack of knowledge of how to promote the motor development of babies in an informal settlement with little or no resources available was evident as the practitioners used the planning of the preparatory year group as a guideline for what to do with babies. This is not possible for the motor development of babies, because the fundamental movement phase of six-year-olds differs completely from the reflexive and rudimentary phases of zero- to 18-month-old babies’ motor development skills according to Gallahue’s (1998) hourglass model of motor development (see Section 3.4). From observations and informal discussions, it was clear that the practitioners most often only looked after the basic needs of the babies in their care, but no intentional motor development took place due to a lack of professional knowledge.

### 7.3.2 Lack of professional attitude

The co-researchers further felt that a lack of professional attitude, which includes individual constraints, was a paramount challenge for practitioners working with babies. Practitioners are not motivated to do what is expected of them. Due to a lack of motivation, a lack of loyalty and commitment also surfaced. The co-researchers thought that low remuneration (extrinsic constraint) led to the practitioners not being motivated, loyal, and committed to developing the babies in their care. As centre managers, the co-researchers felt that they were committed and motivated to stimulate the development of the babies in their centres but thought that they needed to be the steering force to be able to get the practitioners to do their part in the playroom. The following was said in this regard:

*P1: I'm sitting here thinking about it from their side, neh, they are less motivated because of salaries.*

*P2: They are not motivated.*

*P3: Practitioners are not motivated.*

### 7.3.3 Lack of development approaches

Due to a lack of approaches to developing babies, the co-researchers, as centre managers, must supervise unqualified (extrinsic), little-motivated practitioners to be professional and take responsibility for developing the babies placed in their care. The co-researchers indicated that not only did the practitioners lack motivation, commitment, and loyalty but also creativity, and therefore, the practitioners would wait for the centre manager to tell them what to do daily, without taking initiative and being creative in the playroom. In-house training (see Section 7.4.2) is then offered by the centre managers, who also have a lot of other responsibilities at the centres. This relates to findings made by Zulu et al. (2022) that ECCE practitioners need short in-house interventions to ensure that quality learning takes place in centres (see Section 2.8).

*P1: We are doing in-house training, but sometimes we ["we uhna"], I'm talking about ... I'm the centre manager and I'm also being trained, I'm a student now, so I cannot, I will be training this person to see to it that this person is doing what she is trained to. It's a problem because sometimes I've got other stuff to do for the school and I must supervise the person.*

*P2: ... they need to be committed. I mean, they also need to be creative; we mustn't always give. They need to be, uhhh uh, and think out of the box. They*

*can use this phone in the afternoons so google and whatever and try and get something and send them WhatsApp. I have a staff group, I send it to that. But I'm telling you.*

**Language proficiency** was also identified as an intrinsic challenge. The language of learning and teaching at the centres is English because in informal settlements, families who speak different indigenous languages live in the same area and take their children to the same centre for care and education (Kretzer & Kaschula, 2020) (see Section 2.5). Some practitioners, specifically those working with babies, find reading in English difficult because they attended schools in informal settlements themselves where the language of learning and teaching is Setswana. As there are 11 official languages (see Section 2.4), they may have received education in any one of the other languages, with English as a second or third additional language. Therefore, practitioners sometimes struggle to understand instructions in English, especially if they receive written instructions in English that they must read. Even though the NCF and NELDS documents are available in all 11 official languages, initially, the practitioners were not aware of these documents or the fact that they had been translated. Terminology differs in English and Setswana, and therefore, they do not always understand instructions when these documents are translated. In this regard, the following was said:

*P2: The problem, neh, is that it sound[s] different in the languages.*

*P3: The problem, remember, is that they can't read English proper[ly]. At least, I have to explain to them [practitioners working with babies] what "what what", yes. So, if we would have [it] maybe even in Setswana at least.*

#### **7.4 Extrinsic constraints**

The challenges that practitioners are confronted with in promoting the motor development of babies start with socio-economic challenges (see Sections 2.6, 2.8, 3.4). Socio-economic challenges influence individual constraints, such as a lack of knowledge, a lack of professional attitude, and a lack of development approaches, which influence whether practitioners stimulate and develop babies in their care (Gabbard, 2022; Rosa & Tudge, 2013).

Extrinsic constraints that may hinder practitioners to stimulate motor development include, but are not limited to, socio-economical constraints, such as environmental constraints, a lack of professional training, and a lack of parental support.

**Table 7-3: Extrinsic constraints.**

Environmental constraints	Lack of professional training	Lack of parental support
Informal settlement	Limited opportunity for training	Lack of parental involvement and commitment
Little space	Unqualified	Lack of parental commitment
No or limited resources	Low remuneration	Turnover of babies
Natural disaster – COVID-19 pandemic	Turnover of staff	

**7.4.1 Environmental constraints**

Informal settlements have become home to many impoverished communities in South Africa (see Sections 2.3, 2.5). The establishment of informal settlements is due to various factors, such as economic vulnerability and low-paid jobs, population growth, and a lack of affordable housing, to name a few (Avis, 2016). These environmental factors play a role in the functioning of ECCE centres in informal settlements and lead to constraints influencing the development of children raised in informal settlement communities.

ECCE centres in informal settlements rely on financial support from the government and donations from various communities or charity organisations, which are not consequent, and therefore, the centres have limited funds available to expand and maintain the premises (Harrison, 2020). The centres have to register with the DSD as NPOs, but only when they receive a health certificate can they receive funding from the DSD. The registered centre in this study uses the subsidy to provide two meals a day to all children in the centre. Many centres in informal settlements do not receive subsidies from the government because they are not registered NPOs (see Sections 2.5, 2.6, 6.1.6). If an ECCE centre is not registered with the DSD, it does not receive any subsidy from the government, which means it relies on only the small amount of school fees parents pay and donations from the community.

The co-researchers think that the process of registering with the government departments is a challenge on its own because of all the health and safety regulations the centres need to comply with. An entire portfolio of evidence needs to be submitted to the DSD, with building plans, various building and staff clearance certificates, food and programme registrations, a title deed, a business plan, and policies (see Section 2.3). In the experience of the co-researchers, the

communication regarding registration is also a challenge, and these centres can wait long periods for centres to be registered after the application has been submitted.

When a centre applies at the DSD (see Section 2.6) for funding, the storerooms, toilets, and verandas are included in the square meters to house children in the centres. This results in qualifying to accommodate, for example, 90 children, while the space occupied by children is much less than what they work on.

*P3: We start with Health; then, after getting [a] health certificate, you get [a] partial care certificate from Social Development. After getting partial care, you get [a] programme certificate and then programme certificate, uhhh, they check that you having [sic] a programme with children every day. It's difficult with us; they even check that the children ... can read and write, especially the Grade Rs [six-year-old group]. They can, uhhh, colour in ... that is for programmes.*

*P1: I've got [I teach] Grade Rs; so I don't know, I am not sure about the registration but I have a Grade R also. But I don't have an EMIS number [a unique eight-digit number assigned to all schools by the DBE, EMIS is a function of DBE to maintain and integrate education information systems for the management of education].*

C1 is a registered NPO, and in August 2022 received a health certificate, which is valid for a year, from the DSD, which means that the centre can now receive a subsidy. This certificate cannot be transferred from one premise to another, and therefore, P1 will have to apply for the same certificate for the stand across the road that she is renting (with the option to purchase) and accommodating the preparatory group on. P1 also applied for registration with the DBE. Through our collaborative discussions, P1 and P3 offered to assist and support P2 in the application process, as C2 is not a registered centre. For approximately four years, C3 has been receiving a subsidy, as C3 is registered with the DSD and complies with all regulations, and P3 is also in the process of registering C3 with the DBE.

Below is an example of a health certificate that is issued for subsidy.

**HEALTH CERTIFICATE**

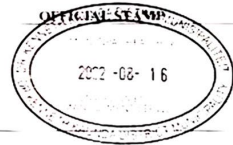
**THIS CERTIFICATE IS NOT TRANSFERABLE FROM ONE PREMISE TO ANOTHER.**

LOCAL AUTHORITY: **DR KENNETH KAUNDA DISTRICT MUNICIPALITY**  
**CNR WOLMARANS AND WALTER SISULU STR**

TELEPHONE: 057 740 4400

VALIDITY PERIOD: 16 APRIL 2022 - 16 APRIL 2023

CERTIFICATE NO: 2022-08-16



**PERSON IN CHARGE**

NAME: [REDACTED]  
ID NO: [REDACTED]

**EARLY CHILDHOOD DEVELOPMENT CENTRE**

NAME: [REDACTED]  
ADDRESS: [REDACTED]

TELEPHONE: [REDACTED]

It is hereby confirm that the abovementioned pre-school complies with Standard Health By-laws for pre-school institution. The total number of **90 children** can be accommodated on the premises ranging from **6 months - 6 years**. The center operates from **07H00 to 16H00 on weekdays**.

NAME: [REDACTED]  
DESIGNATION: [REDACTED]

SIGNATURE: [REDACTED]

HI NO: [REDACTED]  
DATE: 16 APRIL 2022

**Photograph 7-1: Example of a health certificate for ECCE centres.**

The low school fees that parents pay, if they can, are used to pay the salaries of staff. Therefore, centres accommodate the maximum number of children to be able to receive the maximum subsidy, and this results in overcrowded classrooms and playrooms. The co-researchers find that there is very little space for the number of children housed in the ECCE centres; therefore, they find the playrooms overcrowded. They have gotten used to overcrowded playrooms that leave little space for motor development, but from our informal discussions, they came to realise that space was a constraint to effectively stimulate motor development in the centres. The following responses were given in this regard:

P1: You know what, Benita, we were speaking about space. Johh, it's a serious issue, and I wanted to whisper about this one – I'm thinking my baby class, it is 3,8 x 3,8, and I'm housing 18 babies in that classroom.

P2: Yes, space is a challenge. You saw my office is here, and the next room is the babies. Sometimes when it is not so cold, we take them outside to run.

Below are photographs of the overcrowded playrooms at C1, C2, and C3. Note that on the days that these photographs were taken, all the babies were not at the centres.



**Photograph 7-2: Overcrowded playrooms.**

From our discussions, we came to realise that no or limited resources were available at the centres to stimulate development, specifically the motor development of babies. The practitioners indicated that they did not have funds to buy resources and, therefore, did not have resources to stimulate motor development. The intrinsic constraints of the practitioners, such as professional knowledge, motivation, commitment, and creativity, also influence the availability of resources, as one needs knowledge of what resources to use and motivation, commitment, and creativity to create relevant resources. With very little income, ECCE centres cannot always afford to buy resources; therefore, they need to be creative in making their own resources. Being creative is an individual constraint that can be challenging for many practitioners who think they are not creative or who are not motivated to be creative. In our discussions, we motivated one another to think creatively about how we could promote motor development, even though resources were seen as a constraint. We discussed different options to overcome the problem and P2 said:

*P2: Ladies, can we not use those recycled material things [making resources] we learnt in the Singakwenza workshop during lockdown?*

Putting the knowledge in action that we had gained in the Singakwenza workshop we had attended (see Section 6.4), we started investigating what recycled materials were freely available and what resources we could make to ensure that the babies would be stimulated. Recycled materials were the best solution, as the COVID-19 protocols also stipulated that no soft toys, for example, were allowed in the centres. Only toys that could be sanitised daily were allowed, which brought us to recycled materials (see Section 8.2) that could be sanitised and could easily be replaced if necessary, depending on the type of resource. In this regard, the following was said:

*P1: We must have time to do it, to create them.*

*P3: You know those resources and now the money.*

The COVID-19 pandemic brought about many challenges that led to us, as co-researchers, to be creative in supporting one another, not just with the focus on this study but also focusing on personal and emotional support in trying to cope during the global pandemic. The COVID-19 regulations (WHO, 2020) were a major challenge in this study because it was even more difficult to reach the goal, which was to promote the motor development of babies in ECCE centres in informal settlements. The COVID-19 protocol that was put in place stipulated that there must be a space of 1,5 meters in-between children, which was a challenge in overcrowded playrooms, and for this reason, they could not take in new babies in the centres. This resulted in not having babies between birth and six months old in the centres at some stages in this study, as a baby of three months, for example, was already six months old on return to the centres when the lockdown

was lifted and the centres could open again. To comply with the COVID-19 regulations, C1 used hula hoops in the playroom so that they would be 1,5 meters apart. This led to the babies not being able to move around freely as they were restricted to sitting or standing in the restricted space of the hula hoop.

*P1: The COVID-19 file, it's, uh, really a challenge because there's so many things that they want there – we must print out policies and print out the, the uh, trainings, especially the COVID-19 training, and they also want, uh, staff, uhm, precaution protocols and everything.*

To underline the abovementioned information, a photograph was taken at C1 when the jungle gyms were closed, as they were not supposed to be used during the COVID-19 pandemic because of the regulations at ECCE centres. At this centre, 25 babies were divided into two very small rooms, and when I asked when they went outside to play, which is part of big motor development, I was told that they kept the babies inside for the entire day. After a few visits and discussions, the babies were playing outside for small periods daily, in a very small area, and the activities created through our discussions were implemented.



**Photograph 7-3: Closed jungle gyms during the COVID-19 pandemic.**

## 7.4.2 Lack of professional training

Practitioners, in general, who work with babies in ECCE centres in informal settlements lack professional training and do not have appropriate qualifications to offer quality education to young children (see Section 2.3). At most, early childhood training certificates on NQF Levels 4 and 5 (SAQA, 2020) have been completed at NGOs and can provide access to a diploma in ECCE or ECD offered by a university on NQF Level 6, as university qualifications start on NQF Level 6 (see Sections 2.8, 6.1.7).

*P1: So that's the problem, qualification is a problem, training ... my baby class teacher is really not professional because of the qualification and training that she doesn't have.*

Due to a lack of university training programmes in the ECCE field at higher education institutions, the Department of Education in South Africa published the MRQECCE (DHET, 2017) to guide and enhance qualification development and training for practitioners in the ECCE field (see Sections 2.3, 2.7). The ECCE qualifications are currently (2022) still in the development phase at universities across South Africa and will shortly be available to provide candidates with qualifications, enhance teacher training, and ensure that there are well-qualified practitioners in ECCE centres (see Section 2.7).

As many ECCE practitioners are unqualified, they earn small salaries and, therefore, do not have funds to pay for training, which leads to the ECCE workforce being under-appreciated and classified as a low-income profession (see Section 2.8). On top of that, very few opportunities for training, specifically for the workforce working with zero- to four-year-olds, are available. The co-researchers indicated that they had an ECD community WhatsApp group of which the practitioners in that area were part and where they heard about training. Furthermore, the co-researchers have experienced that sometimes, when training is offered by the government, specific criteria must be met by the potential candidates before enrolling for the training. Previous criteria included age restrictions; for example, training was offered only for practitioners younger than 35, which leaves older practitioners with no opportunity for training (see Section 2.7). P1 responded with regard to this challenge as follows:

*P1: I think three years back before COVID, and they have their criteria. The criteria was [sic] if you are less than 35 years, then you can apply for this training of ECD Level 4. So, this teacher in the baby class could not do the training.*

This leaves the training responsibility to the centre manager, who must train new practitioners. In turn, such additional tasks influence managers' work capacity and quality, since the tendency in informal settlements is to employ the minimum staff to earn more money. This again can hurt the holistic stimulation of babies in these centres. Conversations on this theme evoked a lively discussion –

*P1: Qualification is a problem; training also. We are doing in-house training, but sometimes we, we uhna, I'm talking about ... I'm the centre manager and I'm also being trained, I'm a student now, so I cannot. I will be training this person to see to it that this person is doing what she is trained to [do]. It's a problem 'cause sometimes I've got other stuff to do for the school and I must supervise the person.*

*P2: Yes, the challenge is ... the training, resources, qualifications.*

The co-researchers identified the high turnover of staff as a major challenge in promoting the development of babies. The low remuneration of practitioners influences the turnover of staff, as staff members are demotivated and constantly looking for something with a better salary; so, they do not stay in the same position for long. Furthermore, low remuneration (see Table 7-3) leads to practitioners not being motivated (intrinsic), which, in turn, leads to practitioners not being committed, loyal, or creative (intrinsic).

*P1: And because of the salaries that we pay them, it is very little, they are not motivated to stay.*

*P1: Because of salaries, they go look for other jobs.*

*P3: The other thing that we are not doing at our centre is to register them with [the] UIF and then the problem is that they don't stay.*

As mentioned above, the centre managers end up offering in-house training due to limited funds and opportunities for training (extrinsic); however, due to the high turnover of staff, consistent motor development is seen as a challenge.

The co-researchers, as centre managers, feel that they train practitioners with the knowledge they have, which takes approximately three months for practitioners to gain basic knowledge and skills to stimulate babies. By the time they have gained insight into developing babies, they may be interested in earning bigger salaries, which leaves the co-researchers at the beginning again, to find someone competent and willing to learn, as well as committed to stimulating and developing babies. This puts an extra workload on the centre managers to ensure that practitioners receive

in-house training every time a new practitioner is appointed after another one has resigned due to finding a new job with better remuneration. McNair et al. (2022) have also found that trained practitioners are lost due to better opportunities; we conclude that this adds to the centre managers' workloads. Centre managers not only do in-house training but also ensure the safety of the staff and children, that salaries are paid, that parents' needs are met, that the centre complies with policies, that the shopping is done for food to feed all the children daily, to mention just a few. Moreover, they take responsibility for the resources that are available at the centres to promote the development of all children at the centre.

### **7.4.3 Lack of parental support**

Stimulating motor development at ECCE centres is also influenced by a lack of parental support, which includes parents' involvement and commitment to developing their children in collaboration with the centres. The co-researchers believe that when babies in informal settlements are enrolled at these centres, the parents shift their responsibilities to the centres. They feel that parents who bring their children to the centre think that it is the practitioner's job to look after their children (see OECD, 2017) (see Section 2.3). For instance, when a baby is sick, the parents will expect the practitioners to look after the sick child. This also influences the development of babies in the playroom, as a sick baby needs individual attention and care, while the practitioners are already faced with overcrowded playrooms. This, in turn, causes the practitioners to pay less attention to developing the babies in their care. On this point, the following was said:

*P2: Informal settlement, they are, uhhh, making our job to be not to be [sic] easy for us. Why? They will bring the children sometimes not feeling well; when we call, there is no one at home; they don't have phones, [and] we have to struggle with a sick child for the whole day.*

The co-researchers agreed that parents in informal settlements were not committed to being involved and did not see the importance of supporting the practitioners in stimulating their children. This aligns with Vorster et al. (2016), who have found that practitioners feel that they are expected to not only develop children scholastically but in all areas of development due to absent or uninvolved parents.

The following responses summarise the co-researchers' experiences of parental involvement in the informal settlement:

*P1: ... don't get really any stimulation at home.*

P2: *Is is like, uhm, like, uh [redacted] said, neh, parents, if you send some work to them, work to do, they don't, they don't comply, and they say, tell you, "We don't understand this, you teachers, you understand them, everything." So, I also didn't send any work ... at home because of parents, they don't want to, they are actually, they are lazy. I can say that [laughs].*

P3: *It's where the parents, they have to understand that, but most of them, they don't understand Ubuntu and they don't understand the "thingetjie" that we are the ones that [are] always staying with their children. We know their children more than them, because of them, they will be like only Saturday and Sunday, but, uh, the whole week, we are with them, that with their children. But if we will be like, uh, telling the parents, uh, telling, uh, you know, "Your child is struggling on one, two, three, four, five, at home; try to do this with your child," some of them, they understand, some of them, they don't have the Ubuntu understanding.*

Stimulating motor development in ECCE centres in informal settlements is also influenced by the turnover of babies. The co-researchers have found that parents are not committed to paying school fees and, consequently, they rotate their children between ECCE centres, as they do not have the means to pay for school fees. This is in line with the finding of a study by McNair et al., (2022) that there is lower attendance in centres due to parents' inability to pay fees. Other reasons identified are that parents relocate and move their baby to another ECCE centre closer to where they live. The following was said on this point:

P1: *The other reason most of the time, it is money, most of the time they are not satisfied, or they relocate to another place, or the parents doesn't [sic] work anymore. Too many reasons. It can be from the school side. It can be from the parents' side. And then that's when you ask us, "How many babies do you have?" We will tell you at least [redacted] I've got three of three months, but as time went on, the ones of three months are no longer there. It's a ... that's one of the challenges.*

P1: *... 'cause when you register children, to be registering children according to the classes and space, but along the way, the children are leaving because, simply because of [sic] parents don't pay school funds and they just stay at home owing the school, saying nothing.*

*P3: The children are rotating the creches, hey. She will be in my creche three months, not pay; if she has to pay, she leaves to go to P2, and then three months there, if she has to pay, she leaves and go[es] to P1.*

Because parents are not committed to paying school fees, the centres struggle to get payment from parents, which they (the centres) need to survive on. This also resonates with what Adebunmi and Bipath (2022) have found. The school fees are used to pay the practitioners' salaries, and those centres that do not receive subsidies also utilise the school fees to ensure that all children at the centre receive two meals a day. The co-researchers had the following to say in this regard:

*P1: They pay R450, and we cannot charge more than that because we are in an informal settlement, because the economy there, it is not the same as maybe at the suburb.*

*P3: That child will end up for the whole year not paying school fund.*

Even though many challenges hindering the motor development of babies in these ECCE centres were identified, we, as co-researchers, worked collaboratively to find ways of working around the challenges and support practitioners in promoting the motor development of babies in their care.

## **7.5 Summary**

As the research facilitator, I took hands with the practitioners as co-researchers and used PALAR to collaboratively find answers and solutions to our challenges. The problem that this research addresses is how to support practitioners to promote the motor development of babies in ECCE centres. The lack of training of ECCE practitioners in South Africa is of major concern (see Sections 1.1, 1.2, 3.1), as they lack knowledge of and skills in promoting the development of young children (see Sections 1.1, 1.2), especially babies (Harrison, 2020).

The research questions were designed by looking closely at the challenges and concerns of the practitioners of the three ECCE centres involved. We realised how important it was to have knowledge and skills to be able to create and implement stimulating motor activities with the babies.

The table below was extracted from the online questionnaire in Table 6-3, as discussed in Cycle 1.

**Table 7-4: Challenges experienced as indicated through the online questionnaire.**

<p><b>17. What are the challenges that you experience with the motor development of babies at your centre?</b></p>
<p><i>Babies are delayed physically and need to have more activities that will encourage physical development.</i></p> <p><i>Babies is [sic] a lot of work and babies needs [sic] the teacher more and the teacher is the role model.</i></p> <p><i>Babies needs [sic] more attention so that they can be strong.</i></p> <p><i>They don't listen, you have to be patient with them.</i></p> <p><i>Not a lot of resources like balls // big balls // see-saw // no equipment.</i></p> <p><i>Some children don't listen they want to do what they want, at a time that they want.</i></p> <p><i>Children coming with rashes from home, hindering them from doing activities in class.</i></p>

From Table 7-4, it is evident that the practitioners face challenges that influence the motor development of babies in these ECCE centres. Moreover, practitioners must gain knowledge of and skills in promoting the motor development of babies in their care for them to be able to understand and support each baby’s individual needs (see Section 3.3).

**7.6 Limitations of Cycle 2**

The challenges identified were experienced in a global pandemic and could have been different in “normal” circumstances, without a global pandemic. I, as the research facilitator, could not be in the playrooms with the practitioners throughout the study to observe why some challenges occurred. One of the limitations was that we all had to express ourselves in a second language, and sometimes, the co-researchers spoke in Setswana, which I did not understand, even though P1 translated what they said into English so that I could also understand. The turnover of babies was another limitation because we would, for example, work on activities for a three-month-old, and by the time we needed to test the activities, that baby had either grown a few months or did not return due to parents not paying school fees. P1 indicated this as a challenge –

*P1: We will tell you at least [redacted] I've got three of three months, but as time went on, the ones of three months are no longer there. It's a ... that's one of the challenges.*

**7.7 Transformation within the ALG**

While facilitating ongoing learning in the ALG, I realised that the way I thought reality would be and the way reality was, were two different realities. I come from a context where I also face daily

challenges, but not the type of challenges that my eyes had opened to while I was busy with this study. Growing in my scholarship of teaching and learning, I also realised that my way of “doing” and “developing” was not always the only way or necessarily the correct way. The practitioners, as co-researchers, have helped me to transform as a researcher (see Mezirow, 2000) – to not only be goal-driven but also to stop and think about the challenges that these practitioners or members of the ALG in informal settlements face daily, especially challenges that arose due to the global pandemic. Furthermore, it helped me to better understand a diverse context with different challenges than those I had been used to.

Even though each member of the ALG brought particular knowledge and skills to the group and experienced many challenges, not only at the centres but also personally, P1 stood out for me. P1 had a key role in the success of this study. She took a lot of initiative, and through her positive outlook, she realised that she was creative and could take leadership. In her own words:

*P1: I never knew I am [sic] so creative.*

P1 phoned me one day, and in an informal conversation, she said to me that I had motivated her to be creative and do better. I felt that she did that for me too through her positive outlook and will to develop and grow personally as well as professionally. Furthermore, she was always motivating the other co-researchers. Even though she faced many challenges, she became a pillar of strength in this action learning process. Her commitment and competence (see Wood, 2020) in contributing to this process were extraordinary, and therefore, I feel it is important to mention her specifically.

For one, P1 contracted COVID-19 herself and was very sick. After recovering, she had more personal challenges with a family member passing on. At this time, she asked me if it would be possible to move our scheduled face-to-face and online (in different alert levels) sessions so that she could be part of the discussions, as she wanted to be part of this process of collaboration and transformation, but she felt that she needed my support. She worked hard and from her side, always tried her best. Through her motivation and commitment towards the ALG, we grew stronger as a team, identifying challenges hindering the motor development of babies.

Furthermore, the discussions on the challenges brought the co-researchers together to share the challenges that they were experiencing, and they could support one another with possible solutions to the challenges. They would give one another advice and share what worked for them. They learnt from one another and through each one’s strengths supported one another. At the beginning of the study, P3 was very reserved, but as time progressed, she showed more confidence in sharing her experience, and the other co-researchers looked up to her for advice.

P1: *She is an experienced teacher, we are looking up to her [P3].*

*P3 gave valuable advice to P1 on registering her centre with [the] DSD to be able to qualify for a subsidy, as she has 15 years of experience and has been receiving a subsidy for a few years now. The ALG became a support group, and P1 and P3 are also advising P2 on the procedures of registering C2 to comply with all regulations to receive a subsidy from the government. By the time we had to leave, we were all feeling motivated as our paths separated again.*

*P2 showed transformation by sharing her challenges and experiences and building confidence to identify the challenges in her centre.*

To me, this was a turning point because through all the challenges we had experienced, collaboration to me meant that I did not do this, but supporting one another in unknown topics and circumstances motivated the co-researchers to believe in themselves and to feel that they had a safe space to share and advise one another.

## **7.8 Conclusion**

The co-researchers identified interacting constraints that led to challenges in promoting the motor development of babies to share their struggles in an informal settlement during the global pandemic. Listening to and discussing the challenges they experienced led me to better understand the context of this study.

Even though interacting constraints cause many challenges that influence ECCE practitioners' ability to promote the motor development of babies, we, as an ALG, had to think about how we could support practitioners despite these challenges. Therefore, at the end of Cycle 2, the following question arose: *How will we go about working towards activities with resources that are freely available in informal settlements in South Africa?* Hence, Cycle 3 unfolded.

## CHAPTER 8 CYCLE 3: CREATING MOTOR DEVELOPMENT ACTIVITIES FOR UNDER-RESOURCED ECCE PLAYROOMS

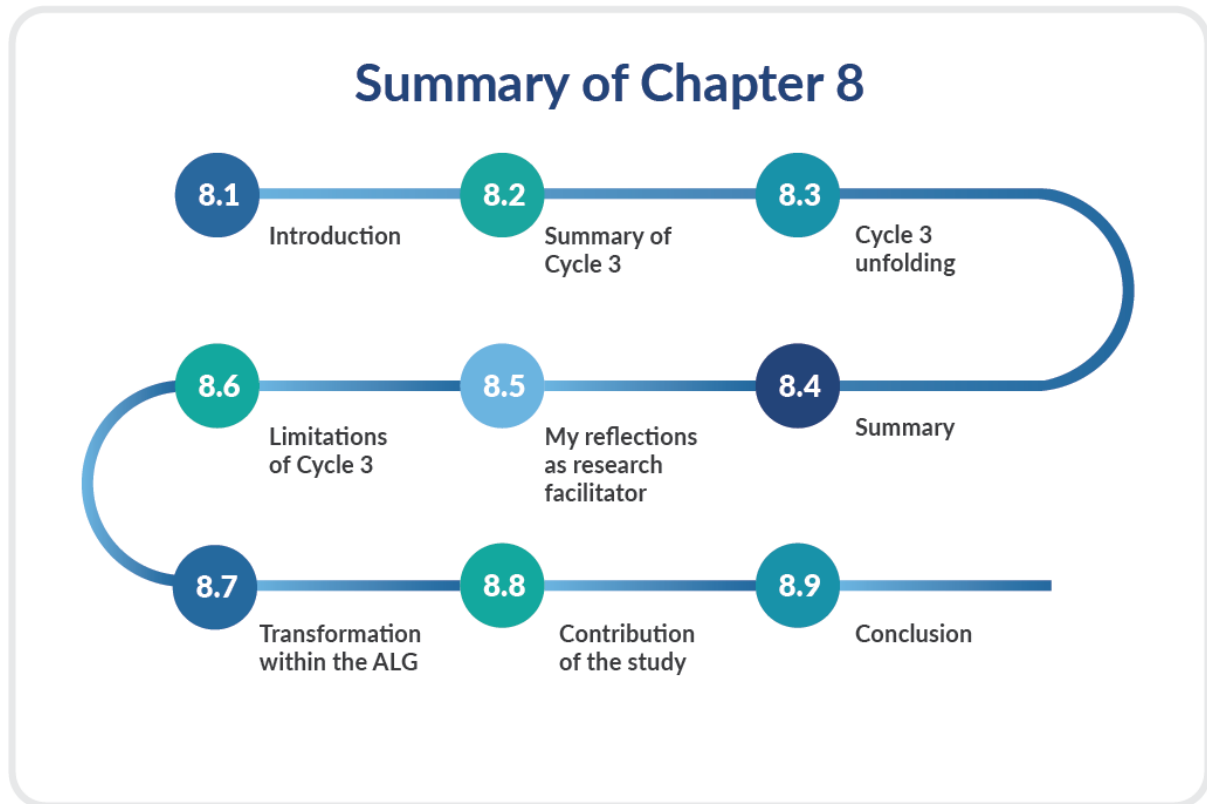


Figure 8-1: Chapter summary.

### 8.1 Introduction

In Cycle 1, we established what knowledge and skills the ECCE practitioners, as co-researchers, had with regard to the motor development of babies in an informal settlement. As stated in Chapter 6 (see Sections 6.5.1, 6.5.2), the practitioners did not have sufficient knowledge and skills in this regard, and collaboratively, we came to realise that not much holistic stimulation happened during the time spent at the centres other than feeding, changing diapers, and keeping the babies safe.

In Cycle 2, we collaboratively explored the challenges the practitioners, as co-researchers, experienced in the motor development of babies in the ECCE centres. Predominantly, a lack of professional knowledge, a lack of professional attitude, and a lack of development approaches were identified as intrinsic constraints that hindered practitioners from stimulating the motor development of babies in informal settlements. Furthermore, extrinsic constraints included environmental factors, a lack of professional training, and a lack of parental support (see Section

6.2). These challenges, as identified in Cycle 2, Chapter 6, include, but are not limited to, a lack of motivation and commitment, inadequate training, and low remuneration, which leads to the workforce also changing regularly (see Section 2.1). Few or no resources are available, and there is very little space to promote motor development in these centres situated in informal settlements. Moreover, parental involvement is very rare, and some of the centres do not receive subsidies from the government and are reliant on parents paying very small fees. On top of all of these challenges, the COVID-19 pandemic struck South Africa and the rest of the world in 2020, and ECCE centres were closed for months.

The Covid-19 pandemic led us, as co-researchers, to online discussions, including Zoom meetings and WhatsApp discussions. When South Africa was placed on adjusted Alert Level 1 in October 2021, we were able to meet at the centres and work together on planning, acting, reflecting, and creating activities (intervention). This way, we were able to collaboratively create an EI in Cycle 3. The purpose of the EI was to guide the wider circle of ECCE practitioners in informal settlements with no resources, knowledge, or skills available in stimulating the motor development of babies.

Questions and reflections emerged from the data that we, as co-researchers, had collaboratively gathered, and we were able to collaboratively make recommendations on developing stimulating activities, represented in an EI. We decided to develop the EI in such a way that, apart from the practical guidelines, tips, and resources made from recycled material, we wanted to provide ECCE practitioners with a quality, user-friendly booklet that can promote the motor development of babies in informal settlements. This is aligned with the transformative learning theory of Mezirow (2000).

## **8.2 Summary of Cycle 3**

After reflecting on the challenges as set out in Cycle 2, as well as the knowledge and skills of the practitioners gained in Cycle 1, Cycle 3 unfolded. In Cycle 3, relationship building continued and the research process further reeled out in continuous, iterative cycles of planning, acting, reflecting, and creating the EI to address the third research question: *What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?*

During the planning session, we collaboratively reflected on “why are we doing the research”. We agreed to:

- try to understand the guidelines and develop age-appropriate stimulating activities to promote the motor development of babies in under-resourced ECCE centres in informal settlements;
- gain knowledge of and skills in the kinds of resources we could use or resources we could make from recycled materials to use in a playroom to stimulate the motor development of babies in under-resourced ECCE centres;
- gain skills in making such resources ourselves to promote and stimulate the motor development of babies in under-resourced ECCE centres; and
- find out what each of us could do to contribute to the motor development of babies in under-resourced ECCE centres.

On Lockdown Level 1 (September 2020), after receiving ethical clearance for the third time from the ethical board of the university, we were able to get together and discuss and gain knowledge of the guidelines (NELDS and NCF) provided by the DBE and the DSD to guide the development of babies (see Section 1.10). Initially in Cycle 1, the planning was that each co-researcher would keep a reflective journal, in which we would each write our own thoughts and reflections. This could have worked, but for this specific group, it meant an extra workload after a full day's work at the centres. The co-researchers also struggled with reflecting on their own; therefore, we collaboratively decided that possible activities should be sent to me, as the research facilitator, to write up, and at the next ALG session, we would discuss the activities and improve or change them where we saw fit to do so.

With this in mind and with the extra workload added by the COVID-19 pandemic rules and regulations, keeping separate individual journals did not take effect and keeping a collaborative reflective journal ended up being the best option to suit us as an ALG. The collaborative reflective journal was supported by WhatsApp communication and online questionnaires. The journal was updated by me, as the research facilitator, by combining all our reflections together into one document that I printed and shared with the co-researchers to read, test, and reflect on for the purpose of validity. This was again used to guide our reflective informal discussions during the following ALG meeting. After interpreting our knowledge and skills, we moved to the critical action of creating activities from the discussions.

In Cycles 1 and 2, we all experienced how difficult the “new normal” was when the ECCE centres opened again after the COVID-19 lockdown, as the co-researchers were worried about the *Standard Operating Procedure Guidelines* (DSD, 2020) received by the government to ensure the safety of practitioners and children. This document stated that no material or soft toys could be used in these centres. We were fortunate enough to have attended a Singakwenza workshop

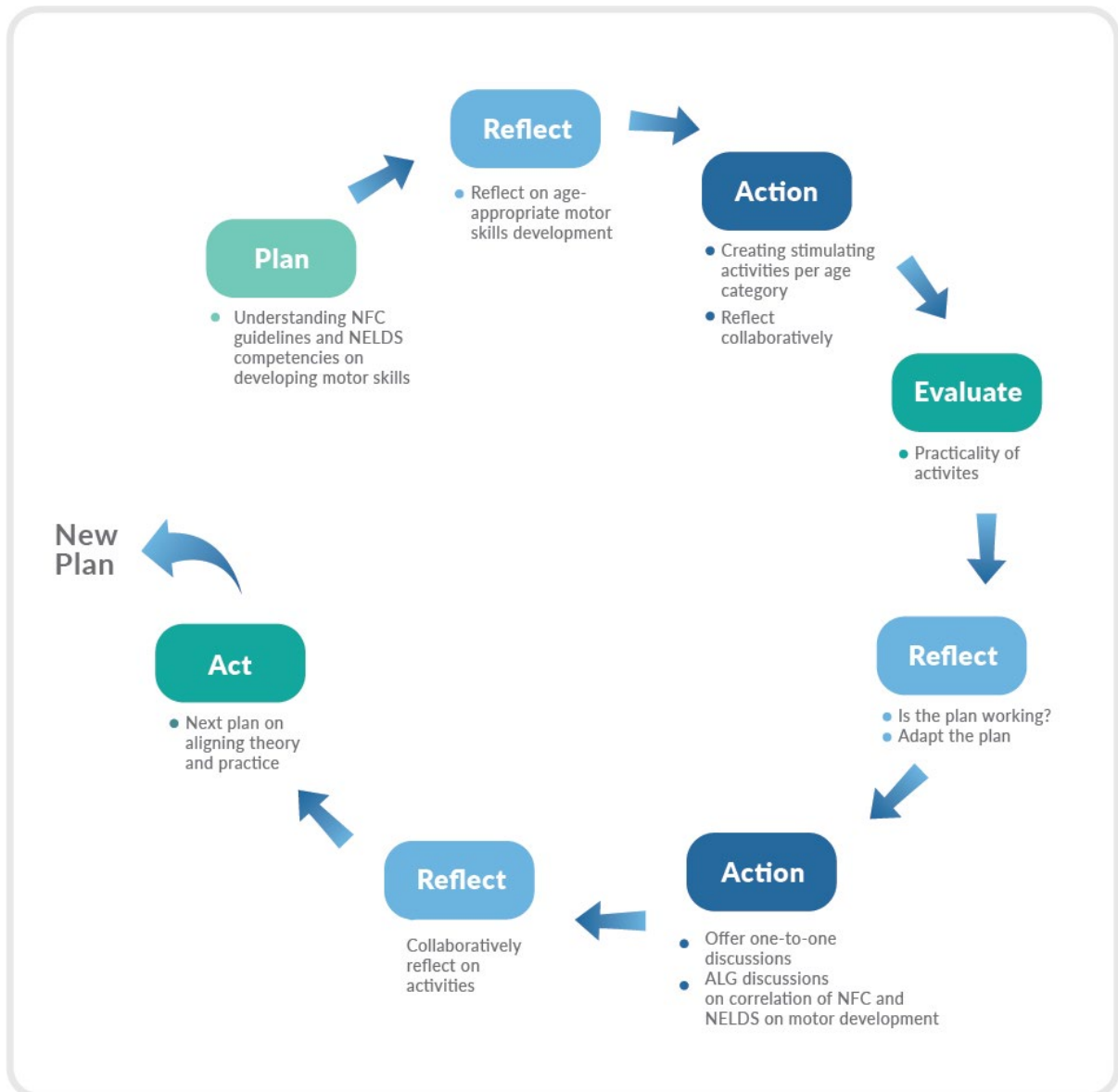
during the baseline pre-Cycle 1 (see Section 5.1) that helped us to think creatively about using recycled materials and creating our own resources to comply with the *Standard Operating Procedure Guidelines* and stimulate motor development in the centres. In this cycle, we were able to think about the different resources necessary to create stimulating activities, reflect on the practicality thereof, and improve them where needed.

In Cycles 1 and 2, we became familiar with the NCF and the NELDS (see Section 2.6) and came to realise that we still did not completely grasp how to use these documents effectively. In Cycle 3, we made a conscious effort to interpret and master the proposed guidelines, NCF and NELDS (see Sections 2.6, 3.3.2, 6.5.2) and complementary resources found on the World Wide Web to create activities and resources to integrate into our daily activities with the babies to stimulate motor development. As we gained knowledge in this regard, we constantly kept the EI for ECCE practitioners in informal settlements in mind to develop it in an understandable and practically feasible way for any practitioner without knowledge, skills, or formal qualifications to be able to use it as a tool to promote motor development.

We understood that the activities must be age-appropriate, and we had to know what materials we needed to create the resources with, which skills were aimed to be developed while doing the activity with babies, and which developmental guidelines were relevant to the specific activity. For the purpose of the EI we developed in this cycle, we explored which developmental guidelines (NCF and NELDS) suited the relevant activities for the specific age category, which are divided into zero to three months, three to six months, six to nine months, nine to 12 months, and 12 to 18 months. Because of this division, it is not possible to use one activity for all these age sub-categories, and therefore, it is important for practitioners to understand that while the same resources can be used, the activity needs to be adapted according to the baby's age and ability. What may hinder the practical feasibility of the activities is that different age sub-categories are accommodated in one playroom due to space shortages in centres in informal settlements (see Section 6.4.1). The activities created in this EI were created to easily be adapted for babies and toddlers of 18 to 24 months who are included in the baby playrooms at these centres in informal settlements.

### **8.3 Unfolding of Cycle 3**

Collaboratively, we came up with a plan to ensure that we all understood the age-appropriate guidelines on developing the fine and gross motor skills of babies. We had to reflect and act while thinking about these guidelines and putting the plan into action. Our following different processes (plans) to find out how we could create stimulating activities is discussed next.



**Figure 8-2: First plan – process of understanding the guidelines.**

The first **plan** was to understand the guidelines on how we could stimulate the motor development of babies. Document analysis of the NELDS and NCF took place in Cycle 1 to understand how we could develop the motor development of babies, and Cycle 3 continued with document analysis. The **plan** of action started out to take each guiding developmental guideline and develop activities accordingly. Hereafter, we **reflected** on the motor skills of babies that could possibly be developed in an age-appropriate manner. To put the plan into **action**, we decided on activities to stimulate motor skills in the specific age-appropriate category. This was an enjoyable but challenging activity, since we had to physically do each activity to evaluate the practicality thereof. The ALG found this very difficult, and we had to adapt the plan to be able to move forward. At this point, it was clear that the co-researchers needed guidance in developing stimulating motor

development activities. Thus, the need to gain knowledge of and skills in developmentally appropriate activities for the motor development of babies became more evident.

In my role as a lecturer at the university, through curriculum development based on the NELDS and NCF for prospective ECCE students, I had surpassing knowledge in this regard and understood that the co-researchers might struggle to capture what was expected from them. I discussed an alternative plan with them to rather have one-on-one discussion sessions on understanding the guidelines, with each of them as co-researchers.



**Photograph 8-1: Individual sessions with co-researchers.**

After these sessions, we met again in the ALG, where I focused on the aims from the NCF that correlated with the projected results and standards from the NELDS document that related to our topic, which was motor development, categorised under physical development, and we collaboratively discussed these.

Figure 8-2 below shows extracts from the NCF and NELDS documents guiding the process of understanding the correlation within the two sets of guidelines (see Section 3.3.2, Table 3-3 and 3-4, Section 6.5.2, Figure 6-2).

# NCF

Aims	Developmental Guidelines for Babies, Toddlers and Young children	Examples of activities for Adults and Older Children to offer while working with Babies, Toddlers and Young Children	Broad Assessment guidelines for watching, listening, noting, reporting, discussing with parents and referring for specialist attention where necessary.
4. Children are physically strong and show abilities and interest in physical activities	<b>Beginning Large muscles</b> Babies • demonstrate reflexes from birth such as the startle, walking and stepping, sucking, grasping reflexes • move arms and legs freely • develop and strengthen neck, and body muscles for twisting and turning, sitting, standing • use large muscles to move in different ways including crawling, dragging and lifting • move from lying down to sitting up • move from sitting to standing • walk alone when hand is held • walk, stop and start safely • walk up stairs with help • runs	<b>Beginning Large muscle development</b> • Play movement games with babies to exercise and to promote their large muscle development for example, pulling up slowly, praising and singing rhymes and songs about these movements • Use songs and rhymes and rhythmic movement with babies from birth and talk to the babies while helping them to exercise • Promote the use of positive traditional and local activities for example, massage, in conjunction with family cultures • Use gentle movements and soft sounds • Provide sturdy, stable and safe equipment which helps babies to move such as logs, tyres, wooden boxes • Provide support to each child in his own large muscle needs for example, helping hands, equipment for moving, stairs to climb	Observe and discuss with parents their babies, toddlers and young children's • energy levels • interest in food • immunisation record to confirm it is up to date (see Road to Health Booklet) • healthy tooth development • awareness and demonstration of hygienic practices such as hand washing, nose blowing, toileting routines

# NELDS

ABILITIES AND AN UNDERSTANDING OF A HEALTHY LIFESTYLE			
DEVELOPMENT AREAS: PHYSICAL AND COGNITIVE			
Introduction	Babies and young children are usually physically very active. Their bodies are developing and growing rapidly. They need nutritious food. Proper health care and a safe environment are very important to ensure growth and development.		
Standard 1	Children demonstrate abilities and interest in physical activities		
Age categories	Some competencies	Age validation codes	Some examples of how adults can support the growth and development of babies and young children
0 – 18 months	<ul style="list-style-type: none"> <li>• Demonstrates some eye-hand co-ordination</li> <li>• Picks up small objects with thumb and index finger</li> <li>• May walk alone when one hand is held</li> <li>• Drops or throws objects forward</li> <li>• Moves from lying down to sitting up</li> <li>• Feeds self with some help</li> <li>• Walks, stops and starts safely</li> <li>• Pushes and pulls large toys, boxes and light objects around the floor</li> <li>• Moves from sitting to standing</li> <li>• Walks up stairs with help</li> <li>• Builds a three-block tower</li> <li>• Eats using a spoon, holds cup in both hands</li> <li>• Holds pencil or crayons in hand to scribble</li> </ul>	B/C B B A/B B B B B B B B B	<ul style="list-style-type: none"> <li>• Encourage children to move freely in a safe space</li> <li>• Provide safe objects for holding, pushing or squeezing</li> <li>• Allow children to feed themselves</li> <li>• Get down to the child's level and encourage them with smiles and talk to move towards you</li> <li>• Stand the child on your lap, hold hands and bounce him or her gently up and down</li> <li>• Sit facing your child and ask them to push a ball to you</li> <li>• Hold a child's hand when walking, running, climbing and gradually withdraw this support</li> <li>• Play stacking games using empty containers or blocks</li> <li>• Provide safe objects to pull, crawl into, and push</li> <li>• Provide food that can be eaten using fingers</li> </ul>

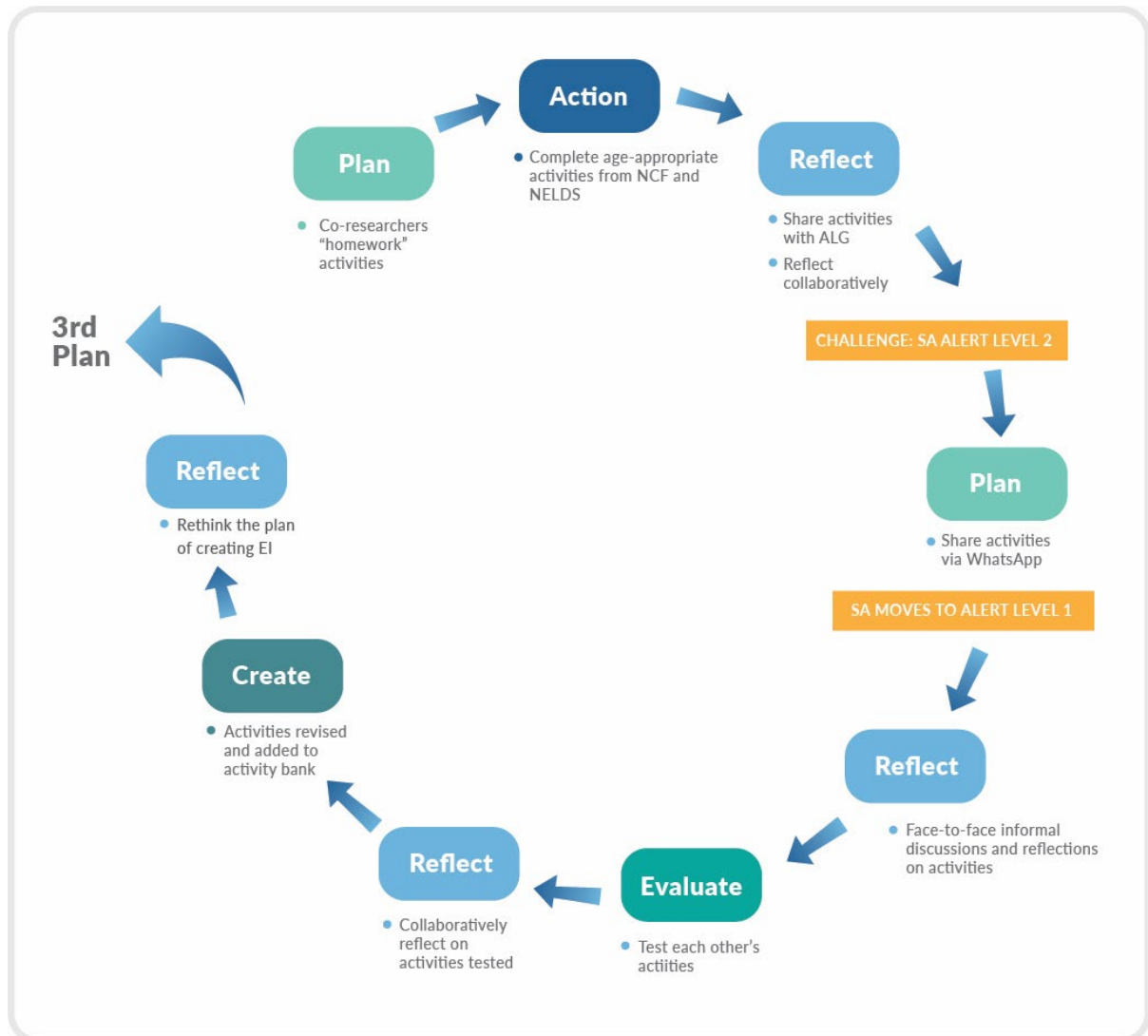
Aims	Developmental Guidelines for Babies, Toddlers and Young children	Examples of activities for Adults and Older Children to offer while working with Babies, Toddlers and Young Children	Broad Assessment guidelines for watching, listening, noting, reporting, discussing with parents and referring for specialist attention where necessary.
	<b>Small muscles</b> Babies • use small muscles to explore in more detail by grasping, feeling, manipulating objects • demonstrate some eye-hand co-ordination • push and pull large toys, boxes and light objects around the floor • pick up small objects with thumb and index finger • drop or throw objects forward • feed themselves with some help • build a three-block tower • eats using a spoon, holds cup in both hands • holds pencil or crayons in hand to scribble.	<b>Small muscle development</b> • Give many opportunities to each baby each day for manipulating different types of objects, such as feeding, drawing, building equipment. • Encourage babies to grasp, pick up, hold, shake and taste, look at, listen to, smell and feel various objects. • Use suitable safe materials from the environment such as pebbles, sticks, plastic containers, for children to manipulate - identifying their properties (plastic, light, hot, etc.) - pouring, rolling, rolling backwards • Provide drawing utensils for babies who are ready, to use them and to help you wash them up when finished. • Provide many opportunities to draw using large wax crayons, index fingers and sticks with water and paint on paper and in sand • Provide opportunities for toddlers to cut with small scissors (help them to hold them correctly and to make the clearer movements required to cut paper) • Help babies to hold drawing tools in the correct way (pencil grip) • Use activities from the following sections with babies who need and show interest in further physical activities.	Watch points to record and to act upon for individual babies, toddlers and young children <b>physical risk</b> • lack of muscle strength (floppy limbs) • difficulty in using a limb • spending a long time expressing pain without moving

Figure 8-2: Correlation between NCF and NELDS (see Figure 6-3).

While discussing the NCF and the NELDS, we also collaboratively **reflected** on possible activities that were suggested in these documents. Slowly but surely, we all started realising how we could use these documents to guide us in creating activities, for example the homework activity relating to Photograph 8-2 set out in Photograph 8-3. By **acting** on the knowledge gained in these guidelines we were led to align theory and practice (see Section 1.7) in promoting the motor development of babies. Then the second plan was collaboratively decided on to be able to move forward.

## Second plan: Process of “homework” activities

Understanding what we should do, as planned out above, guided us to the **action** of homework activities.



**Figure 8-3: Second plan process of “homework” activities.**

The first action we took after gaining knowledge by using these guidelines was our “homework” activities in which the co-researchers had to compile lessons and activities from the NCF and NELDS documents. Photograph 8-2 shows an example of how we started the homework activities to understand the correlation between the NCF and NELDS guidelines.

**Example**

**Homework activity 1**

We looked at the 4<sup>th</sup> Aim in the NCF document p25 and 26. This corresponds with the NELDS

**Desired result 6:** Children begin to demonstrate physical and motor abilities and an understanding of a healthy lifestyle: Development areas: physical and cognitive: **Standard 1:** Children demonstrate abilities and interests in physical development.

**Fine motor**

**Main activity goal** is to take the object from one space to the next without dropping it -see under recommended activity

**Developmental guideline**

**NCF:**

- The 1<sup>st</sup> bullet in **NCF\_p 26:** Use small muscles to explore in more detail by grasping, feeling and manipulating objects
- 2<sup>nd</sup> bullet NCF p 26: demonstrate some **eye-hand coordination**
- **NCF Example:** Encourage babies to hold and feel the object (p26: middle column)

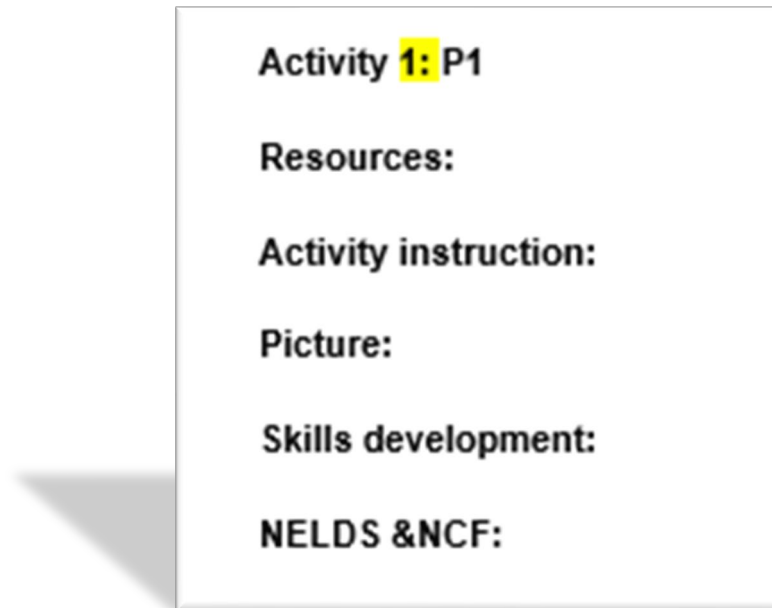
**NELDS:**

- P28, bullet 1 Demonstrates some **eye-hand coordination**
- Bullet 2: Picks up small objects with thumb and the index finger

**Photograph 8-2: Example of homework activity.**

The initial planning was that each one of us would think about three age-appropriate activities and then share these at the ALG meeting two weeks later. The ALG would then share the activities and give one another ideas on improving the activities. We got as far as the first three sessions where we sat together and shared and reflected on the practicality of the activities, which then formed part of our initial activity bank (protocol was followed throughout, as proven by photographs). The president announced that South Africa would be put back onto Alert Level 2 from 31 May 2021. This was yet again a drawback, and the ALG decided that we would attempt to continue with the activities and share them via WhatsApp. We decided that we, as co-researchers, would work on activities, try the activity with the babies, and take photographs of the activities without taking photographs of their faces. These activities and photographs were then sent to me, as research facilitator, via WhatsApp to compile in the collaborative journal, which became the activity bank.

When South Africa returned to Alert Level 1, we were able to have informal discussions and reflections on our shared ideas. We then decided to take one another's activities and try them in the playrooms, meet again and share one another's reflections on the activities. The co-researchers also demonstrated activities to us as an ALG. We then all discussed and reflected on these activities together and made improvements. We used particular headings, shown in Photograph 8-3, to guide us in the process of creating activities.



**Photograph 8-3: Example of headings used to guide the process.**

These lesson plans and activities later served as an activity bank, to which each co-researcher added different activities for the different age groups to act out with the babies. Even though we managed to share a few activities, we felt that we could make better progress if we found another way of going forward, as the co-researchers were still unsure about making resources to fit the age-appropriate activities. Reflecting on the process, it also seemed like the co-researchers were running out of ideas and creativity to create resources. We felt that this was a good workable way when influenced by the lockdown, but when we decided to re-think the plan of going forward and use one resource and create one activity for a specific sub-age category as we go along. The third plan was then made to first identify resources that were already available, which they had also been doing in homework activities and then to try to identify recycled materials that could be used to make resources, as shown in Figure 8-4.



**Figure 8-4: Third plan: process of identifying and creating resources.**

At this point, we were on Alert Level 1 and, eventually on 5 April 2022, the lockdown levels in South Africa were lifted, which made it easier for us to collaboratively test the activity bank in the playroom. Adapting the homework activity **plan** after **reflecting** on it led us to identify resources available in the centre or resources that were easy to make from recycled materials. The **planning** of identifying resources and recycled materials available started again, for example identifying small plastic balls that were available to the practitioners in the centres and reflecting on what motor development guideline (NCF) and competency (NELDS) could be reached while using these balls and keeping the age categories in mind.

We again reflected on and identified recycled materials that could be used, such as empty containers, toilet rolls, and so forth, and were freely available to make our own resources that could contribute to promoting the motor development of babies. The ALG decided to bring recycled material to the meetings, for example toilet rolls, empty containers, empty boxes, bottles, bottle tops, raw food such as pasta, and so forth, and we had informal discussions on what resources we could make from these materials. Guiding the co-researchers in this process, I asked them what they would do with these resources. P1 made a shaker, P2 and P3 started painting toilet rolls and cutting shapes from different colours and pasting them onto the toilet rolls and painting the pasta the same colour as the toilet rolls. P2 brought shapes, which was a resource already available in the centre, and together they used an empty washing powder container, cut shapes in the lid, and, again, another resource was available (see example below).



**Photograph 8-4: Examples of resources made from recycled material**

The safety of the babies was a crucial part of deciding on resources. We would reflect on the developmentally appropriate activity and the resource (available or made from recycled materials) and then decide which skills would be developed through the activity. Looking at the above pictures, it is clear that these are not always perfect resources such as those found in a shop, but in some informal settlements, buying resources is not an option due to the lack of funds available. To be able to create resources, the practitioners had to think out of the box and be creative to the best of their ability. This is also one of the reasons why we inserted photographs of real resources into the EI to show practitioners that bought resources are not the only way of ensuring that babies are stimulated. This way, we also know that resources that break can easily be replaced at any given time. To ensure that babies stay interested, the resources can also easily be made or changed. Old blankets and sheets, for example, can be cut up into strips and tied to a safe object in the playroom to encourage the babies to reach and grab them.



**Photograph 8-5: Reaching for materials or ribbons.**

Throughout the process of creating resources and relevant age-appropriate activities, the practitioners also had to think about the COVID-19 regulations they had to adhere to, which meant that they had to create resources that could be sanitised, cleaned, or replaced after they had been used. Furthermore, the ALG, without realising it, started developing a “context”-specific curriculum – context-specific, meaning taking into account the resources available to them, their environment, and who they were doing it for. It took a while, but as the co-researchers’ confidence increased, they started coming to our ALG meetings with one or two extra activities with self-made resources.

With recycled materials available in the sessions, we were able to create activities that we could include in the activity bank, which included the activity instruction, skills development, and alignment with the NCF guidelines and NELDS competencies. After the co-researchers had tested and reflected on the activities, we added them to the EI.

After identifying what resources we had available, we **reflected** on the **knowledge gained in the NCF guidelines** and NELDS competencies and then took each guideline and **created an activity** that was aligned with the **specific guideline**. Collaboratively, we discussed the possible resources, created resources, and then created and evaluated activity instructions per resource, always keeping the age sub-categories of the NELDS and NCF of babies in mind. The activity

instructions are step-by-step instructions on what to do with the resource to stimulate the motor development of the babies, as shown in Photograph 8-6.

**Activity 5: Shaker**

**Resources**

- 1x toilet roll
- Approximately 6 pieces raw pasta
- Carton

**Activity instruction:**

\*\* Use the carton to cut circles and paste at the ends of the toilet roll to close the toilet roll on the sides and put the pasta on the inside of the closed toilet roll. Ensure that pasta is secure on the inside. Put the shaker in a reachable position for the baby to pick the shaker up and shake it. The baby picks this shaker up, he will hear the sound that the pasta makes inside the toilet roll while developing Fine- and gross-motor skills. The practitioner could put the shaker a bit further for the babies who can crawl, this way you can also motivate big motor development, because the baby should crawl to the shaker, pick the shaker up and shake it.

**Picture:**

**XXXX**

**Skills development:**

- Sensory stimulation – touching, feeling, hearing the sound.
- Fine motor -picking up the shaker, touching and moving (shaking) it around
- Gross motor – moving neck and back muscles towards the object and reaching for the object.  
Crawling towards the object to pick it up

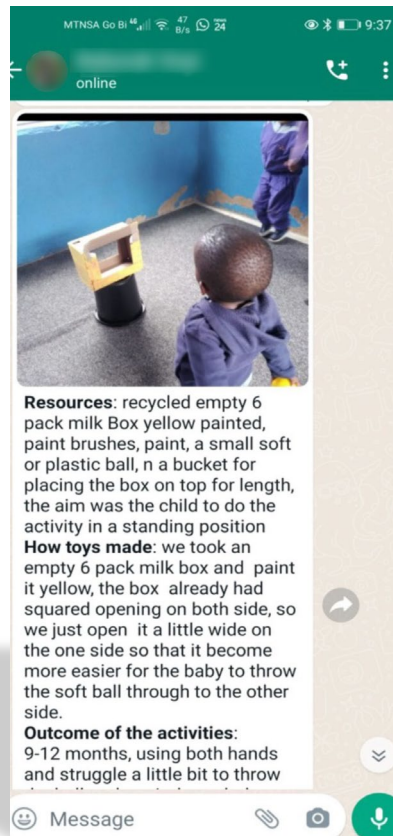
**NELDS &NCF:**

**The practitioners learned about senses through using the NELDS and NCF document**

They will use their senses and increasing ability to move to explore and look for things and reach put to objects (ELDA 6, Aim nr 1)

**Photograph 8-6: Example of activities created and added to the collaborative journal.**

After the exercise of putting an activity on paper and reflecting on the importance of the activity, the co-researchers had to take the activity to the practitioners and let them evaluate the activity with the babies in the playroom. This was to reflect on the practicality of the activities and whether these activities could be used for the specific context. The co-researchers also shared these activities (via photographs and videos) on a WhatsApp group, and I, as the research facilitator, added the activities with photographs to our collaborative journal (activity bank) for discussion at the next meeting, as shown in Photograph 8-7.

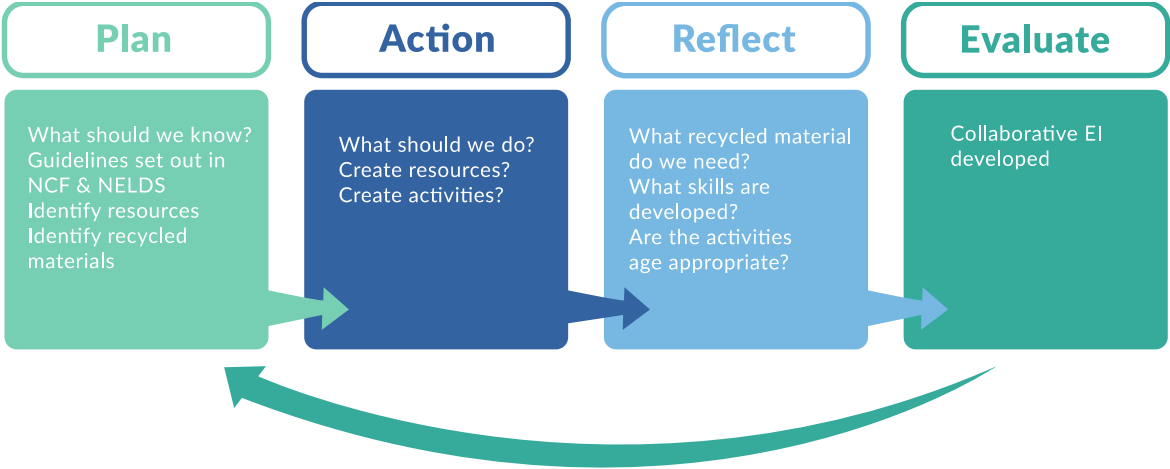


**Photograph 8-7: Example of using WhatsApp.**

Due to COVID-19 regulations, it was important to find different ways to build relationships and observe the activities. Therefore, the videos and photographs were used at the ALG meetings to discuss the activities in the group, where we also had the opportunity to decide on the best possible ways of stimulating fine and gross motor development. We also had the opportunity at the meetings to **adapt** the activities where needed, keeping the age sub-categories and the objective of this study in mind, which was what guidelines could be developed to support practitioners in promoting motor development. Moreover, we came to realise that fine and gross motor development activities were not confined to only those two types of skills being developed, but motor development lays the foundation for all other areas of development. These activities also developed other skills, such as midline crossing, eye-hand coordination, perceptual awareness, developing the senses and reflexes of babies, mathematical concepts, language development, and so forth, which are all integrated into these activities. Therefore, even though our focus was on fine and gross motor development, these activities can also be adapted for the holistic development of babies. We added the activities to our activity bank (reflective journal), and this became the EI for the motor (fine and gross motor) development of babies in ECCE centres with limited space and resources in informal settlements.

We all realised how important this process was to understand where and how babies develop. This EI can also be used for older children to either adapt the activities to their developmental level, or if a child has not reached particular milestones at a specific point in time, practitioners can use the EI to go back and see if they are able to do the activities at a lower level and intervene at the point of shortfall.

Figure 8-5 is a summary of the entire process we followed in creating guidelines in the form of an EI, including planning, acting, reflecting, and creating the EI, to support practitioners in under-resourced ECCE centres in informal settlements to promote the motor development of babies.



**Figure 8-5: Plan, act, reflect, intervention.**

Action learning became clearer to me while collaboratively working on the stimulating motor activities that we put together as an EI. Our knowledge of what babies are able to do and not able to do at specific stages was expanded. It also became clear that resources depend on the availability thereof in a specific context. Leading from behind became a very important aspect of this process, as all the co-researchers as practitioners and centre managers were busy running the centres, while also overseeing practitioners doing what was expected of them in taking care of the babies in their centres.

**8.4 Summary**

In the iterative and cyclical manner set out in the chapter, we tested our emerging theories and actions, made adjustments, applied new approaches, and refined our thinking. We worked collaboratively on creating various activities, were able to reflect on the way we were creating these activities, and were constantly changing and improving them to best suit us as a group. A collaborative reflection journal was kept, and the ALG discussions were transcribed. We used

WhatsApp to share ideas and photographs of activities. We further aimed to improve our scholarship and create theory by examining our own collective transformation as a result of participating collaboratively in the process of planning, acting, reflecting, and creating on transforming our own knowledge and skills of the motor development of babies, as suggested by Carr and Kemmis (1986) and Kemmis and McTaggart (2005).

### **8.5 My reflections as research facilitator**

Reflecting on the ALG sessions in which we collaboratively developed activities for the intervention programme I started reflecting on the question: *Why is it important for me to understand the perspectives of the co-researchers?*

When looking at CHAT, one of the theories underpinning this study, it can be noticed that learning is a process of constant interaction with the environment and others to reach a specific goal. Furthermore, transformation takes place during the learning process when knowledge is built on existing experience within a specific context. I reflected on the importance of all the members of this ALG learning to find their own voice and believing in themselves. Moreover, the value of their perspectives and experiences should be used to improve themselves and the learning environment around them (see Roth, 2012; Koszalka & Wu, 2004). We had a mutual understanding of how important respect for one another's diverse beliefs, experiences, circumstances, and ideas was because it guided diverse respect within the ALG, which, in turn, guided the ALG to reach our common goal, which was to develop a collaborative intervention programme that could be used in their own and similar ECCE centres in the wider circle of ECCE practitioners in informal settlement communities. Agency was developed, as the co-researchers brought change to their own context (see Section 5.4.5) by developing an EI to support unqualified practitioners who work with babies. This is underpinned by the PALAR principles referred to as the 3Rs and 7Cs (see Section 5.4.5).

The ALG worked collaboratively on identifying and developing resources and activities, and I, as the research facilitator, became the centre of information, as I compiled all the activities and relevant resources that were collaboratively discussed, reflected on, and created. This became our collaborative journal or "activity bank" as we preferred to call it, which was available to all of us. I printed a hard copy for each co-researcher as we progressed, which could be shared with the practitioners in the playroom.

It is important that practitioners who use these guidelines should note that the safety of babies comes first. Things to look out for are, firstly, asking oneself whether the activity is age-appropriate for a specific baby. Always make sure that children's safety is taken into consideration when

choosing an activity. Never leave babies alone with resources; they should always be supervised to ensure their safety. Make sure that a stimulating environment is created, with well-planned activities to ensure that motor development is stimulated successfully. Hence, we decided to add a section to the EI, explaining fine and gross motor development, as well as the abovementioned concerns.

### **8.6 Limitations of Cycle 3**

During this process of working collaboratively in a small group working towards one goal, I realised that real-life issues were one of the big challenges in a PALAR data generation process. Finding extra time to work in a participatory manner was exceptionally challenging because we were all faced with many individual and professional challenges during the COVID-19 pandemic. The co-researchers could not always keep to our set appointments, and realising that it was important that they voluntarily took part in this process, we had to take everybody's time, ability, and availability to attend the ALG meetings into account. Getting everybody to contribute was a challenge until the co-researchers felt comfortable and their confidence in their own ability to contribute valuable knowledge and skills in the specific context had grown.

Due to these challenges, including the pandemic and the various lockdown levels, this process carried on for a very long period, and when we met up after long periods, it sometimes felt as if we had not progressed and had to start all over again. Therefore, we had to rework the plan towards the goal a few times until we found a workable way with which we could all associate. This workable way included using technology at times when we were not able to meet in person due to COVID-19 regulations. Using technology brought more challenges, as I had to guide the co-researchers in using technology such as Zoom; however, they soon became confident as transformation took place. Not only did they gain knowledge of and skills in creating motor development activities, but they also learnt to use technology as a communication method. When South Africa was placed on Alert Level 1, we were able to meet at the centres and work together on planning, acting, reflecting, and creating what we were developing.

According to the NELDS (see Section 3.1), babies are divided into an age category referred to as "zero to 18 months", and therefore, the title in this theme included zero to 18 months, but it was adapted as we realised that each year, a baby of, for example three months old, is taken into the centre, but after COVID-19, these babies were all six months and older. The centres could not take in more babies at that point because of social distancing. There was only one three-month-old in C1 and one two-month-old in C2. Therefore, we focused more on babies aged six months up to 18 months in the EI. Even though the focus eventually was on babies aged six to 18 months,

we included some activities for babies aged zero to six months, and the activities can also easily be adapted for babies of up to 24 months.

The ECCE centres involved in this study offer English as the language of learning and teaching, and for that reason, as well as the fact that I am fluent in English, we developed the EI in English. One of the limitations of creating the EI in English is that some practitioners in informal settlements are not fluent readers and speakers of the English language, even though most South Africans are familiar with the language because it is offered as a home language or an additional language in all schools in South Africa. For future use, we would recommend that the EI be translated so that more practitioners in informal settlements can be reached. P3 mentioned this as follows:

*P3: The problem, remember, is that they can't read English proper[ly]. At least I have to explain to them what, what what, yes. So, if we would have maybe even in Setswana at least.*

## **8.7 Transformation within the ALG**

Through PALAR, I was able to bring theoretical and practical knowledge to a different context than the one I, as the research facilitator, was familiar with, and the practitioners could bring their contextual and practical knowledge. Thus, together we were able to develop an EI to assist and support practitioners of under-resourced ECCE playrooms in informal settlements to promote the motor development of babies.

Through collaboration in the ALG, I noticed the co-researchers' personal growth as they gained confidence through their contributions. This became clearer with each activity and resource we developed focused on babies aged zero to 18 months, realising that their knowledge and skills in practice were valuable for the success of this EI. Collaboratively, the ALG came to realise that many of the activities we developed for babies could be adapted for the toddlers (18-24 months) that they also house in their baby playrooms, as well as young children up to Grade R (6-year-olds). Furthermore, they got more creative and collaboratively decided that they would be able to use art activities for the Grade R children to create resources to use in the baby playrooms.

The co-researchers initially lacked the terminology to explain the activities and the importance of the activities. While collaboratively writing up the activities and reflecting on them, we all gained insight into the importance of the activities. This way the vocabulary and terminology of ALG related to the motor development of babies expanded. The co-researchers also gained confidence through the knowledge and skills they gained on using the guiding documents (NELDS and NCF) to support them in developing their own context-rich curriculum. Moreover, they

became aware of guidelines and activities to stimulate the motor development of babies and came to realise how important the motor development of babies was for later learning in the young child's life. The co-researchers all agreed that this study helped them to gain knowledge of and skills in promoting the motor development of babies in their care. P3 stated it as follows:

*P3: I don't know if the Department, but since we had, uhuh uhuh, this research with you, at least those ladies when I, uh, remind them ... remember [B...] 1, 2, 3, at least they remember.*

As the co-researchers came to realise the importance of stimulating babies' motor development, P2 and P3 showed transformation by employing an extra person to assist in the baby playrooms and guiding these practitioners in implementing stimulating motor activities in the playrooms. In 2022, P1 enrolled for a diploma qualification at the university where I am a lecturer, and P3 applied and was accepted for the same diploma qualification starting in 2023.

Two of the centres are registered ECCE centres now. Through transformation, the co-researchers not only gained knowledge of and skills in promoting motor development but also gained insight into the importance of transforming and equipping themselves with a formal qualification.

## **8.8 Contribution of the study**

The PALAR theoretical framework process became clear through the construction of knowledge in practice through a collaborative approach. According to Wood (2019), action learning is a very important part of learning and guides people who work in small groups to address real-life issues and find better ways to do what they want to do to contribute to the body of knowledge. Furthermore, PALAR aims to improve relationships and enable people to think creatively and critically about changes they wish to bring about. Through critical reflection, dialogue, and individual experience, a scholarship of learning evolved within the ALG. Relationships among the co-researchers became stronger by sharing concerns and challenges with one another (Cycle 2) and trying to work towards the same goal, which was developing an EI that could be used by practitioners in informal settlements to empower practitioners who work with babies. The EI is user-friendly and written with the idea that anyone can easily read and understand the activities, which are supported with photographs of the resources and implementation of the activity. Furthermore, with the knowledge and skills gained, the ALG will be able to assist other practitioners in their surrounding community to ensure that the babies in their care develop motor skills that will contribute to the holistic development of all these babies that pass through their centres.

Recycled materials are freely available, and we realised that parents could easily be involved. We suggest that practitioners request parents to assist in collecting recycled materials and explain to them what will be done with the recycled materials and why. The EI was written in a way that the specific activity instruction with resources, including recycled materials, can be copied and put up for all to see when they drop off babies at the centre. For those who use transport for their babies, a WhatsApp can be sent with the instructions by taking a screenshot on a cell phone. This way, parents can also gain knowledge of the importance of motor development.

## **8.9 Conclusion**

Arriving at the ECCE centres in informal settlements for the first time, I identified many challenges and shortfalls just through observation, which the co-researchers had agreed on. With that in mind, I thought I would change things quickly by working with the co-researchers and maybe even telling them what to do. Babies are all kept in one room, where they are fed, changed, and kept safe for the day. During the informative discussions, it became clear that the practitioners did not have applicable knowledge to stimulate the babies; they all answered that they took care of the babies and did not know what else to do. Collaboratively, we realised that there was a need to guide these practitioners in developing activities to stimulate the development of babies in their care.

As from Cycle 1, including the baseline data, the co-researchers voiced their concern about a lack of knowledge on stimulating the motor development of babies. Knowledge gained collaboratively led us to realise the importance, as well as the need, of the motor development of babies in under-resourced ECCE centres located in informal settlements. Collaboratively, we gained knowledge of and skills in creating resources and stimulating activities. Challenges such as unqualified practitioners and little access to training became evident, and together, we as co-researchers decided to develop an EI. Developing the EI collaboratively in a community-university partnership equipped the co-researchers, as practitioners, in developing the necessary knowledge and skills to support practitioners to promote the motor development of babies aged zero to 18 months in under-resourced ECCE playrooms found in informal settlements.

# CHAPTER 9 SUMMARY OF THE RESEARCH STUDY AND CONCLUDING REMARKS

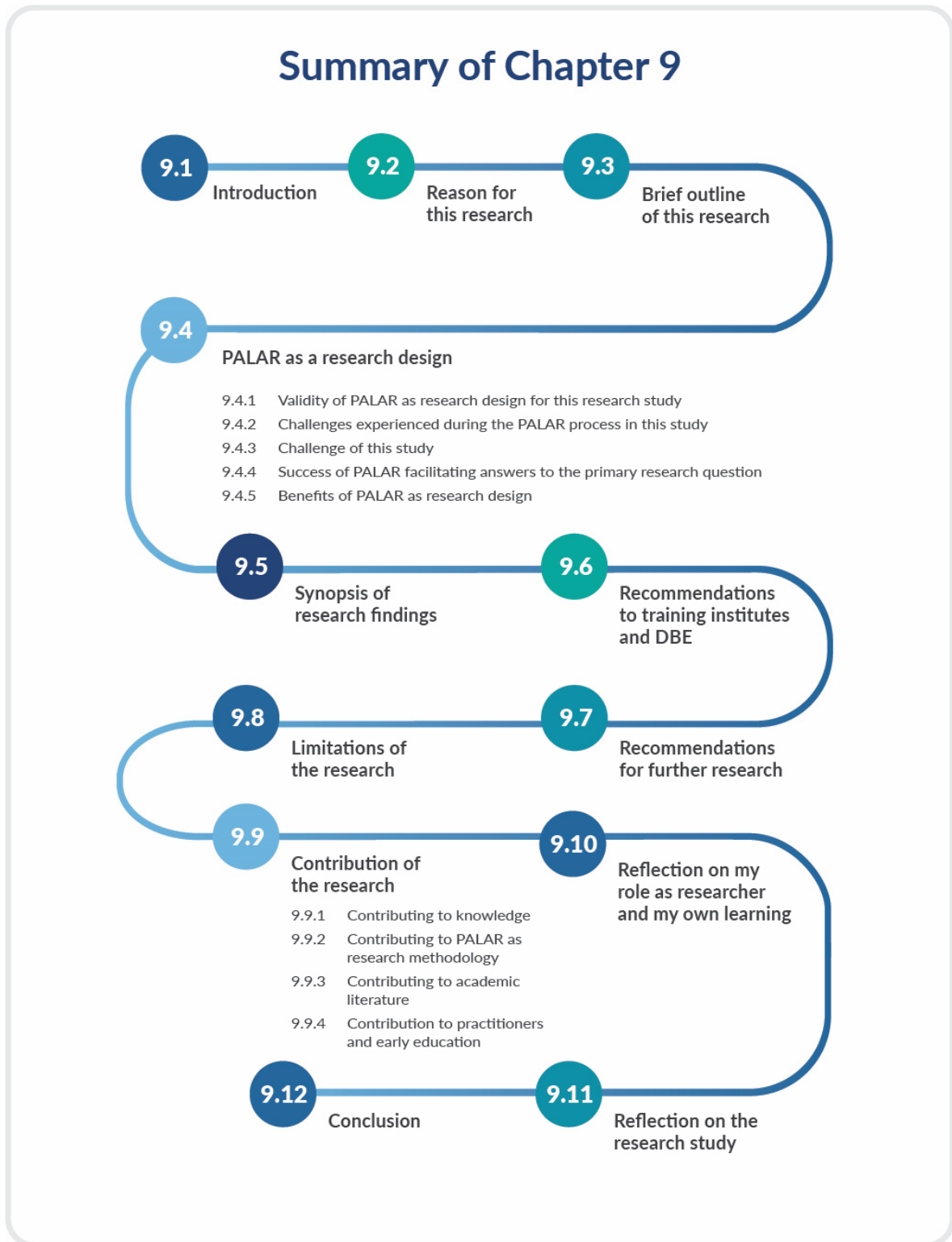


Figure 9-1: Chapter summary.

## 9.1 Introduction

This research project aimed to answer the primary research question: *How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?*

This chapter provides a synopsis of the research process to answer the primary research question. Chapters 5 to 7 focused on the analysis of the research data, while the present chapter focuses on an overview of the research process and a discussion of the research data, the limitations and contributions of the research, and recommendations for future research.

## 9.2 Reason for this research

The overall objective of this research study was to determine how a PALAR process could support practitioners in under-resourced ECCE centres in informal settlements to promote the motor development of babies aged zero to 18 months by enabling co-researchers to compile an EI consisting of practical guiding activities to stimulate the motor development of babies (see Sections 1.6, 2.8, 3.1, 5.2, 5.13, 6.2, 7.1, 8.2). The research process simultaneously provided an opportunity for the personal and professional development of the co-researchers by reflecting on our preconceived perceptions about stimulating the motor development of babies in under-resourced ECCE centres in an informal settlement.

## 9.3 Brief outline of this research

**Chapter 1** provided the motivation for and a contextual orientation to this research study. Important concepts were clarified, followed the formulation of the research questions. The objective and a brief discussion of the theoretical framework and research methodology, the role of the researcher, and measures to ensure trustworthiness, followed by the ethical considerations of the study, were discussed.

In **Chapter 2**, a broad overview of the education system in South Africa was given, where I looked at ECDCE internationally, as well as nationally, followed by different terminologies used globally to better understand ECCE. Policies and guidelines for ECD in South Africa were discussed, after which the education and training of ECCE practitioners in South Africa were reflected on.

**Chapter 3** offered an overview of the motor development of babies aged zero to 18 months, explaining how motor development forms part of holistic development and contributes to the development of babies. Gallahue's (1998) hourglass model of motor development and the way in

which interacting constraints have an influence on the motor development of babies were discussed.

**Chapter 4** provided an overview of two theories corresponding with the basic principles of PALAR (see Wood, 2020) and supporting the development of agency in the co-researchers in promoting the motor development of babies in ECCE centres. The theories comprise the critical transformative learning theory – a combination of the critical and transformative theory of Mezirow (1997) and CHAT (Engeström, 2001).

In **Chapter 5**, I discussed the methodological paradigm suitable for this study and described the theoretical justification of the research methodology. The theoretical elements underpinning the research are methodology, epistemology, ontology, and axiology. These elements must be understood to ensure that research will be guided by the beliefs, assumptions, values, and norms of the chosen paradigm. The discussion centred on a theoretical justification for PALAR as the research design of this study and the methods of data generation and the analysis of the data. The chapter confirmed that this research followed the ethical requirements of validity and trustworthiness.

**Chapter 6** described the baseline knowledge gained and findings of Cycle 1 of the PALAR research design and discussed the findings. The ALG, as co-researchers, described their views and their existing knowledge of and skills in the motor development of babies in under-resourced ECCE centres in informal settlements.

In **Chapter 7**, the findings of Cycle 2 of the PALAR research design were stated and a discussion of the findings was provided. The co-researchers' view of challenges experienced in ECCE centres, which have an influence on stimulating the motor development of babies, was also set out.

**Chapter 8** explained and discussed the findings of Cycle 3 of the PALAR research design. I also discussed the co-researchers' process of collaboratively planning, acting, reflecting, and creating activities leading to creating an EI to support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements.

**Chapter 9** is the final chapter and summarises the entire study.

In **Annexure I**, the reader can find the EI that we collaboratively developed in this study to support practitioners to promote motor development in under-resourced ECCE centres in informal settlements.

## **9.4 PALAR as a research design**

### **9.4.1 Validity of PALAR as research design for this research study**

In Chapter 5, PALAR as a methodological paradigm was discussed (see Section 5.4.5). This pointed to the appropriateness of PALAR because members of the community, as ECCE practitioners, and I, as a lecturer and research facilitator, collaboratively engaged as co-researchers working towards the same goal. We formed an ALG and adhered to the PALAR principles to improve the research context. The PALAR principles known as the 7Cs, and 3Rs (see Section 5.4.5) guided us in the research process to understand how PALAR could support practitioners to promote the motor development of babies and to address the objective of this study. As co-researchers, we adhered to the 3Rs by building a trusting and supportive relationship, while collaboratively reflecting on and recognising the knowledge, skills, and contributions of all co-researchers. Furthermore, we adhered to the 7Cs by collaborating and reflecting as a team and creating a safe space where we were all able to build confidence and share personal experiences through communication within our ALG.

As an ALG, we had to take ownership of this study and make alternative plans due to challenges experienced caused by the COVID-19 pandemic. Throughout the pandemic, we continued communicating and supporting one another by using technology, which gave us insight into one another's worlds. Our relationship grew stronger, and we all became friends working towards the same goal.

In this collaborative process as co-researchers, we followed an iterating cycle of planning, acting, and reflecting, while building relationships and working towards the same goal of creating stimulating motor development activities that became the EI to support practitioners working with babies. We needed to explore the existing knowledge and skills of the practitioners in these ECCE centres, as well as challenges that hindered motor development. Together, we also explored the sustainability of promoting the motor development of babies in under-resourced ECCE centres located in informal settlements.

In the ALG, we became lifelong learners and improved our personal and professional knowledge and skills by creating an EI for unqualified ECCE practitioners working in ECCE centres without resources. This EI can contribute to improving the community we work in by the co-researchers using the EI as a tool to empower other practitioners in the community. This resonates with Wood (2020), who states that PALAR emphasises learning and contributes to improving one's own community through research.

We chose the name for the EI based on our experience that ECCE practitioners are a gift to the community who can lay a foundation within the community by contributing to early learning by stimulating the motor development of babies in their care. We called the EI “Kaboentle: Motheo wa Setshaba”. *Kaboentle* means “precious gift”, and *Motheo wa Setshaba* means “foundation of the community”. With this in mind, we see ECCE practitioners as a gift to our communities because they contribute to early learning by laying a foundation from a young age by stimulating the motor development of babies in their care.

#### **9.4.2 Challenges experienced during the PALAR process in this study**

Many challenges were faced for the duration of this study. As a first-time researcher in participatory research, I had to learn a lot about facilitating an ALG and motivating the co-researchers to take ownership, work together, and create an EI to support and promote knowledge creation to ensure improvement in a specific context (see Section 5.4.5). The PALAR process focuses on the co-researchers contributing equally to bring about change in their own context, which was difficult as the co-researchers at first thought I would bring activities for them to do.

Keeping the co-researchers motivated in trying times was another challenge. The extra workload of the COVID-19 pandemic led to the co-researchers not keeping individual reflective journals, and together, we decided that I, as the research facilitator, would keep a collaborative reflective journal to ensure the success of this study. This collaborative reflective journal also ended up consisting of the activities we created collaboratively.

For the success of PALAR as a research process, it is important that all participants adhere to the principles of PALAR, which include the 7Cs and 3Rs. In South Africa, it is not strange for people to communicate in their second language, which normally is English, and most people understand one another in such situations, but this occasionally leads to the person who can express him- or herself best in English taking the lead in the conversation. Therefore, we had to ensure that everybody could express herself in a language that she felt comfortable in; we all had to hear one another, and we had to ensure that each co-researcher got the opportunity to contribute the knowledge and skills she carried. Due to the COVID-19 pandemic, we re-thought the data generation, and technology was used to continue building relationships and to have informal discussions. Due to the use of technology, facial expressions and body language could not be interpreted, but this made us continue with relationship building and strengthening the trust and support within the ALG.

### 9.4.3 Challenges of this study

This study was intended to commence in 2020, but was challenged by the global COVID-19 pandemic, when President Ramaphosa announced a country-wide lockdown in March 2020. The pandemic and lockdown regulations were one of the biggest challenges during this study, as most of Cycle 1 had to take place electronically (see Section 6.4). When face-to-face interaction was, at last, allowed, the participants could not always keep to the planned meetings. Because of this, the data generation had to be postponed at times, which, in turn, led to the process taking place over a very long period.

Instead of seven participants, as initially committed, we had to work with four co-researchers because of protocols that were in place to protect us all against the pandemic. The initial planning of generating data was affected, as I, as the research facilitator, was not allowed in the playrooms to work with the practitioners on stimulating activities for the babies in the rooms.

The data generation strategies had to be re-thought, and different ways of collaboratively working towards the same goal had to be found. Technology was introduced to the co-researchers, and at first, it was a major challenge because the co-researchers were not technologically trained. The data generation also took longer because I had to assist and support the co-researchers in using technology. This can also be seen as a positive point of this study, as all the co-researchers learnt to use Zoom and WhatsApp messages and calls as means of communication. The Zoom meetings that were held contributed to relationship building on a higher level, as we met regularly via Zoom and we were able to listen to one another's challenges and concerns during the global pandemic. We experienced shared emotions and feelings about the uncertainty in our country, and we were able to support one another in this difficult time. This made me realise how important relationship building was, because, while supporting one another during the global pandemic was not the goal of this study, it laid the foundation for the success of the study.

When the lockdown levels were lowered and schools and centres were able to open again, the co-researchers also had many extra tasks and responsibilities, as they had to ensure that protocols were put in place before they could open the centres again. For long periods of time, the centres were closed, and all babies could not be accommodated. Due to protocol, I had limited access to the baby playrooms, and we had to re-think how the activities could be tested.

Language barriers were a challenge, but fortunately, one of the participants was fluent in English, Afrikaans, and Setswana and could interpret where the co-researchers felt they could not express themselves. It also took time for the co-researchers to build confidence to feel that they could contribute towards the development of an EI. At first, they wanted me to tell them what to do, until

transformative learning became clear to them and they gained confidence and realised that we were all equal in contributing knowledge and skills to ensure the success of this study. This included me, as the research facilitator, learning from my co-researchers to adapt my own knowledge and skills in a context that was unfamiliar to me.

#### **9.4.4 Success of PALAR facilitating answers to the primary research question**

The objective of this study was achieved by answering the three secondary research questions, which led to the answer to the primary research question: *How can a participatory approach support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements?*

The findings pointed to PALAR being a suitable research design for supporting practitioners in promoting the motor development of babies in their care. To achieve the objective, context-specific activities with relevant resources were created to stimulate the motor development of babies. The co-researchers reflected on these collaborative creations and tested the activities with the babies in the playrooms. These activities were subsequently compiled in an EI as a tool to support practitioners in under-resourced ECCE centres in informal settlements. PALAR was suitable in the process of finding an answer to the problem at hand.

#### **9.4.5 Benefits of PALAR as research design**

Through my own experiences in this research journey, I have come to realise how we as co-researchers can be equal partners in a process that translates into practical community and educational improvement. The PALAR design is also instrumental in ensuring effective quality education, which resonates with Sustainable Development Goal 4 in South Africa (United Nations South Africa, 2022), which focuses on inclusive, equitable, and quality education and lifelong learning for all children. Effective quality education is important to ensure that young children develop optimally, and access to ECCE results in positive long-term outcomes and promotes socio-economic benefits for society (Mahadew & Hlalele, 2022), which also resonates with Sustainable Development Goal 4.2 (United Nations South Africa, 2022).

Through a PALAR design, educational research is done that benefits the learning and development needs of both community members and academia involved in the research (Wood & Zuber-Skerritt, 2013). The benefit of PALAR is that research is done *with* people and not *on* people; therefore, co-researchers become active agents in the journey of research and learning, which leads to improving their own community through the work they do that brings about transformation (see Section 5.5.1). With this said, it became clear that we, as co-researchers,

collaboratively became co-creators of knowledge in this study by bringing theory and practice together (see Herr & Anderson, 2015), while sharing our knowledge, skills, and experiences with one another, in a safe space, through a process of planning, acting, reflecting, and creating, while always keeping our collaborative goal in mind (Wood & Zuber-Skerritt, 2013).

## **9.5 Synopsis of research findings**

- **Cycle 1 addressed the first secondary research question: What is the current knowledge of practitioners in under-resourced ECCE centres in informal settlements on the motor development of babies aged zero to 18 months?**

The first cycle started with baseline information gathered (see Section 6.4.1). In Cycle 1, we followed iterative cycles of planning, acting, evaluating, and reflecting while trying to establish who we were, what we wanted to do and learn, and why. We also established each co-researcher's role to be able to answer the abovementioned research question. Biographical information of the co-researchers was gathered via an online questionnaire, and from informal conversations, it became clear that there was a gap in knowledge of and skills in stimulating the motor development of babies in under-resourced ECCE centres in informal settlements, which needed to be addressed. This also pointed to a knowledge gap of not knowing how to use and apply the guidelines and competencies set out in the NCF and NELDS documents (see Section 6.4.2).

Building a relationship as an ALG led us to understand one another's context and circumstances. We needed to understand what motor development was and why it was important. Furthermore, we as an ALG needed to understand and gain knowledge about how to use the guidelines and competencies in the NCF and NELDS documents to guide us in stimulating babies in various contexts. We also had to learn and understand that there are different age categories for babies and that the activities can be adapted accordingly. Knowledge of and skills in the motor development of babies are important, as the more knowledge and skills practitioners gain, the more confident they will be in training those around them and guiding parents with babies who need extra stimulation. Document analysis of the NELDS and NCF started with the baseline data information and was repeated in each cycle to better understand how we could use these guidelines and competencies to strengthen the stimulation of the motor development of babies.

- **Cycle 2 addressed the second secondary research question: What are the challenges practitioners are confronted with in promoting the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?**

As Cycle 2 unfolded early in the research, the co-researchers needed to identify challenges that hindered motor development and understand that these challenges should be overcome to promote the motor development of babies in ECCE centres. Iterative cycles of planning, acting, reflecting, and identifying guided us in identifying intrinsic and extrinsic challenges that those practitioners were confronted with that had a direct or indirect effect on stimulating the motor development of babies. The intrinsic constraints or challenges that were identified included a lack of professional knowledge, professional attitude, and development approaches (see Section 7.2). The extrinsic constraints that influence motor development directly or indirectly include environmental factors, a lack of professional training, and a lack of parental support. Collaboratively, we, as an ALG, took hands to find solutions to these challenges experienced. We again realised how important knowledge, skills, and motivation were to be able to successfully ensure the promotion of motor development in under-resourced ECCE centres in informal settlements.

- **Cycle 3 addressed the third secondary research question: What guidelines can collaboratively be developed to equip practitioners with knowledge of and skills in the motor development of babies aged zero to 18 months in under-resourced ECCE centres in informal settlements?**

Iterative cycles of planning, acting, reflecting, and creating guided us in creating an EI collaboratively as a set of guidelines to equip practitioners with contextual knowledge of and skills in promoting the motor development of babies. The co-researchers, as an ALG, had to understand guidelines and age-appropriate activities to stimulate motor development. Moreover, the ALG had to gain knowledge of and skills in selecting and creating resources made from recycled materials. Lastly, each one of us in the ALG had to understand what we could contribute to promoting the motor development of babies in under-resourced ECCE centres in informal settlements.

In Cycle 3, our first plan was to go through a process of understanding the guidelines by planning, acting, reflecting, and evaluating (see Section 8.3, Figure 8-2). Secondly, we went through a process of using these guidelines and completing homework activities following a process of planning, acting, reflecting, evaluating, and creating the final activity (see Section 8.3, Figure 8-3). Lastly, we went through a planning, acting, reflecting, and creating process of identifying and creating resources and activities (see Section 8.3, Figure 8-4), which were combined into the EI. Each time the COVID-19 regulations were adjusted to a higher level, we had to re-think the plan,

which is why three plans were followed, to eventually find a plan that we could continue with even though the lockdown levels were adjusted.

## **9.6 Recommendations to training institutes and the DBE**

Based on the need in this research, the main recommendation would be that more in-service, in-context training should be offered to practitioners working within ECCE centres. Even though higher education institutions are in the process of developing and offering a diploma and a bachelor of education degree in ECCE for the South African context, there are still many practitioners who will not be able to complete a formal qualification due to low remuneration or a lack of time due to their personal and professional responsibilities. For example, identifying practitioners receiving initial training and who can then assist with training practitioners in their own relevant context in the field is a possibility to reach more practitioners who are not able to complete formal qualifications or training offered.

Clustering small groups of practitioners together with DBE representatives and even including university lecturers in the ECCE field to work together and learn from one another as part of a training programme can benefit all involved. The DBE can also give more training opportunities and support to those working with babies and guide them in holistic development and care.

## **9.7 Recommendations for further research**

A further study can be aimed at exploring practitioners' experiences of the EI to promote the motor development of babies that was developed in this study. The guiding question can be how practitioners experience the EI as a tool for practically promoting motor development in ECCE centres and supporting other practitioners in the field. Furthermore, research can be done on how the activities in this EI can be incorporated into the daily programmes of ECCE centres to ensure the development of babies in each aspect of the programme.

This EI can also be adapted to include activities for all learners in ECCE centres and to see how the six-year-old group (Grade R children) can be involved to create resources from recycled materials that can be used for the younger groups. The creation of resources by the six-year-olds can be part of their weekly art and fine motor development.

## **9.8 Limitations of the research**

The biggest limitation and cause of most other limitations of this study was the COVID-19 pandemic. The well-planned face-to-face meetings where we would observe, plan, act, and reflect together (see Wood, 2020) had to be re-thought to ensure that the process remained authentically

participatory and in line with ethical processes. Adapting the plan meant using technology, which, in turn, meant that I, as the research facilitator, had limited observation time to identify strengths, weaknesses, and challenges regarding the motor development of babies in ECCE centres. Fortunately, the co-researchers still had access to the playrooms in their own centres, and we were able to adapt our plan. A further limitation was that the co-researchers were not able to keep their own reflective journals, as not only did they struggle to put their reflections on paper but also due to the extra workload and pressure caused by the pandemic, they simply did not have the time to reflect after an entire morning of working collaboratively as well. Therefore, we decided together that I would be the nodal point and keep a collaborative reflective journal that would consist of all the reflections and activities that we did collaboratively. Due to using technology, data that relate to body language and facial expressions were lost in the data generation process.

I see speaking in a second language as a limitation of this study, as expressing oneself and one's ideas is more difficult than what it would be in one's first language. Dialects are also different, and it is easy to misunderstand what someone is saying. The co-researcher who is fluent in all three languages and acted as language interpreter where necessary, tended to say more than the other co-researchers. Valuable data might have been lost due to the fact that I, as the research facilitator, only "heard" their responses in Setswana but did not follow with understanding. Another limitation was that the fact that due to COVID-19, we did not continuously have babies aged zero to 18 months in the playrooms to test our activities with.

Creating the activities, I could not test all the activities with the co-researchers in the playrooms with all the age categories. The co-researchers had to test some of the activities with the practitioners in the playrooms without my facilitating the activity with the babies.

## **9.9 Contribution of the research**

The aim of the study was to support practitioners to promote the motor development of babies (0-18 months) in ECCE centres through PALAR. This means that the ALG worked together to potentially gain more knowledge, skills, and better values of the motor development of babies in practice in an under-resourced context to become better practitioners. On a practical level, these practitioners will, in addition, be empowered to take action to improve their work environment and be able to demonstrate their capacity as change agents.

### **9.9.1 Contributing to knowledge**

The research questions were based on a gap in promoting motor development in ECCE centres in informal settlements. The findings in this study contributed to the creation of knowledge in the

form of an EI. The co-researchers gained knowledge and skills in the process of creating and compiling the EI through planning, acting, reflecting, and creating the resources and activities compiled in the EI. On a theoretical level, this study will add to the knowledge of the motor development of babies and, in this process, develop a framework for ongoing professional learning and development in challenging ECCE settings, through the creation of this EI.

### **9.9.2 Contributing to PALAR as research methodology**

The traditional way of conducting PALAR research had to be adapted, and new innovative data generation strategies had to be explored to ensure the success of this study during the global pandemic. We had to keep the PALAR principles in mind while trying to find the best solutions to collaboratively work towards the same goal as co-researchers. We used electronic platforms in times when the lockdown levels did not allow us to meet in person. We had Zoom meetings and pre-scheduled these meetings to suit everybody involved. Furthermore, follow-up open-ended online questionnaires were completed by the co-researchers on Google Drive, where these questionnaires were also kept safe. We used WhatsApp regularly – phoning one another for support and sharing ideas and activities on WhatsApp messages. The only limitation of WhatsApp use is that some settings on smartphones delete messages older than seven days and everybody did not back up WhatsApp, which could be a problem if phones were stolen or broken. We also used informative discussions and document analysis as a major data generation method and employed a collaborative reflective journal instead of individual reflective journals. I added the pictures that were shared via WhatsApp to the collaborative journal, which became part of the EI.

The principle of CHAT (Engeström, 2001) that refers to people engaging in a network relation to other activity (see Section 1.7.2) relates to the PALAR principle that is focused on relationship building. This relates to this study, as relationships have improved up to the point where the co-researchers phone me to share big events in their centres, for example, sharing the news about land allocation to a centre and inviting me as a guest speaker to the annual concert. They were not sure whether they should include the babies in the concert, and with some guidance and support, the baby groups were successfully included in the concerts in which motor development was also promoted. This was a clear indication of transformative learning (see Mezirow, 2000), as knowledge has brought about change in the way the co-researchers think about the motor development of babies.

I also realised that this is not just a process of reaching the goal, which was to write an intervention programme for babies, but also a process of building relationships, creating a safe space to improve situations, and enabling people through the process to think creatively and critically about

the change they wish to bring about in their own environment and themselves. I could see the practitioners' growing confidence in their own abilities as transformation took place.

### **9.9.3 Contributing to academic literature**

The solution to the research problem achieved by using a PALAR research design for this study guided us in collaboratively creating an EI to support practitioners in promoting the motor development of babies in under-resourced ECCE centres in informal settlements.

### **9.9.4 Contribution to practitioners and early education**

The study addresses key challenges that practitioners are confronted with and raises awareness of the power that practitioners have in transforming themselves and their playrooms. To my knowledge, similar research has not been done at ECCE centres in South Africa. This study will, therefore, add to the body of knowledge about the continuous motor development of babies, and in this process, we, as an ALG, developed an EI for ongoing professional learning and development in challenging ECCE settings in South Africa. This resonates with the PALAR and CHAT principles that highlight that through collaboration among co-researchers, change is brought about in creating context-specific knowledge (Engeström, 2001; Wood, 2019) (see Sections 1.6.2, 4.2.1, 4.3).

The EI that was created through the research done in this study is applicable in any under-resourced ECCE setting where practitioners wish to improve their capacity for learning and promoting the motor development of babies aged zero to 18 months.

The co-researchers grew and were transformed, and by the end of this study, two of the co-researchers enrolled for a diploma at the university where I am employed. I truly felt like the scholarship of teaching and learning of the entire ALG had developed, as we had to become creative in creating our own resources. The co-researchers also took ownership and started in-house training with the unqualified practitioners working in the baby playrooms.

In two of the centres, extra help was appointed in the baby playrooms, as the co-researchers as centre managers realised that stimulating the babies in their care was just as important as keeping them safe, clean, and fed. The co-researchers also supported one another in registering the centres with the DSD and the DBE.

## 9.10 Reflection on my role as researcher and my own learning

The role of the researcher in this study was to improve the quality of human actions by evaluating and reflecting on practice. As the researcher, I kept a collaborative research journal while observing in practice and working collaboratively with the co-researchers. While working collaboratively, I led from behind instead of following a “top-down” leadership approach, as advised by Zuber-Skerritt (2015). This means that the co-researchers not only learnt from me, but I also constructed knowledge through collaborative participation with the co-researchers. The data gathered by keeping a reflective journal were used in ongoing cycles. The goal was to develop an EI for the development of relevant practice and context related to the motor development of zero- to 18-month-old babies in a functional playroom.

While facilitating ongoing learning in the ALG, I realised that the way I thought reality would be and the way reality was, were two very different realities. I come from an environment where I also face daily challenges, but not the type of challenges that my eyes were opened to while conducting this study. Through this PALAR process, the co-researchers were enabled to reflect on their own circumstances and developed skills to become lifelong learners and solve their own challenges.

Growing in my own scholarship of teaching and learning, I also came to the realisation that my way of “doing” and “developing” was not always the only way or necessarily the correct way. The co-researchers, as ECCE practitioners, helped me to transform as a researcher to not only be goal-driven but also to stop and think about the challenges that ECCE practitioners face daily.

Within the ALG, I learnt how important it was to have a shared vision, to support one another in the process, that we all learn with one another, as well as from one another, and that we had to evaluate our ideas because of the diverse environments and backgrounds we work in (see Wood, 2019, p. 78). I am an Afrikaans speaker in South Africa and used my second language, which is English, within the facilitation sessions. P1 is fluent in Setswana, English, and Afrikaans. The rest of the co-researchers could express themselves in English, even though their mother tongue is Setswana. I also learnt that in the South African context, with 11 official languages, it was important to have someone who could translate within a specific context, so that all the members in the ALG could understand what the other members were saying. In this way, we could build a trusting and caring relationship within the ALG.

As a research facilitator, I had to learn a lot, as this was the first time I worked within a PALAR project. My previous experience was with financially comfortable centres, meaning money was available to ensure that resources could be bought and used as needed. Charity events were my

first encounter with these centres, where we would get people together to donate presents to ensure that 150 children from a disadvantaged informal settlement received Christmas presents. Starting with this project, I was not completely sure what would come of this, but after the first conversation in the ALG, my thinking that babies were only being kept safe and taken care of with regard to their basic needs was confirmed. It became clear to me that there was a big need in terms of “What should we do with the babies in our care?”.

I walked into the ALG as a white female lecturer from the university, and I soon realised that the co-researchers saw me as an educated lady who would tell them what to do. I started conversations, and through the project, we became more aware of one another as individuals. I tried to communicate and show these women that we were all equal in this project, working towards the same goal, each one bringing her own individual skills and knowledge to share with one another. They started trusting me, and I facilitated many of the sessions, which was also very new to me.

Later, as the confidence of the co-researchers grew, their strengths became evident, and this was when I started leading from behind. P1 showed great potential for facilitation, and I motivated her to lead some of the sessions and talk to the other co-researchers and assist them with challenges they experienced within the process. For example, we realised that one co-researcher was not sure what was expected of her in the group, which could have been part of a language barrier. P1 took the lead and explained things to her in Setswana, and in each session, we would speak English and then some would code-switch to Setswana if they felt more comfortable sharing information in Setswana. P1 also took the initiative to translate so that I could understand as well. Through this, I noticed the development of the co-researchers within the group, as well as individually.

I can honestly say that I have learnt a lot from my co-researchers about developing babies in a context that is very different to my own, and this made me realise that it is important to always try to first understand the context one wants to “fix” before trying to “fix” something that one does not know is “broken” or have experience in.

### **9.11 Reflection on the research study**

The need for quality ECCE is receiving increased attention globally, and from this, the United Nations have set out goals to motivate lifelong learning, of which quality education is crucial (see Section 9.4.4). The early years set the groundwork for later learning; therefore, it is crucial to start with early learning as young as possible. With this said, this study attempted to fill a gap in the South African ECCE field found within informal settlements and focused on supporting

practitioners to promote the motor development of babies. We focused on motor development because motor development influences all areas of learning because children, specifically babies, learn through movement.

We explored the existing knowledge and skills that practitioners in these ECCE centres had, as well as the challenges that practitioners in informal settlement ECCE centres experience that hinder motor development directly or indirectly. Through a PALAR process of collaboration, dialogue, reflection, and creation of activities and resources, we, as an ALG, became enablers of change. We collaboratively learnt how to use guidelines to stimulate babies and create activities and resources from recycled materials. Through this process of learning, we supported and empowered one another to cope with the global COVID-19 pandemic and created a tool to promote the motor development of babies in under-resourced ECCE centres.

### **9.12 Conclusion**

As ECE is set out as a government priority in South Africa, there is a need for the under-qualified ECD workforce to gain knowledge of and skills in promoting the motor development of babies. My personal belief is that we should start by equipping all practitioners working in ECCE with the necessary knowledge and skills to ensure quality early learning programmes for all babies, toddlers, and young children. This EI is only a small starting point in supporting practitioners in promoting the early stimulation and learning of babies with a focus on motor development.

## BIBLIOGRAPHY

Adebunmi Y.A., & 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://dx.doi.org/10.4102/sajce.v12i1.980>

Adnams, A. (2012). Neurodevelopment. In M. Kibel, T. Westwood, & H. Salooje (Eds.), *Child health for all: A manual for southern Africa* (pp. 242-244). Oxford University Press.

Adolph, K. E., & Hoch, J. E. (2019). Motor development: Embodied, embedded, enculturated, and enabling. *Annual Reviews of Psychology*, 70, 141-164. <https://doi.org/10.1146/annurev-psych-010418-102836>

Aliyu, A., Singhry, I., Awuya, A., & Abubakar, M. (2015). Ontology, epistemology and axiology in quantitative and qualitative research: Elucidation of research philosophical misconception. *Mediterranean Publications & Research International on New Direction and Uncommon*, 2(1).

Retrieved September 17, 2022, from

[https://www.researchgate.net/publication/318721927\\_ONTOLGY\\_EPISTEMOLOGY\\_ANDAXIOLOGY\\_IN\\_QUANTITATIVE\\_AND\\_QUALITATIVE\\_RESEARCH\\_ELUCIDATION\\_OF\\_THE\\_RESEARCH\\_PHILOSOPHICAL\\_MISCONCEPTION](https://www.researchgate.net/publication/318721927_ONTOLGY_EPISTEMOLOGY_ANDAXIOLOGY_IN_QUANTITATIVE_AND_QUALITATIVE_RESEARCH_ELUCIDATION_OF_THE_RESEARCH_PHILOSOPHICAL_MISCONCEPTION)

Anderson, G. L., Herr, K., & Nihlen, A. S. (2007). *Studying your own school: An educator's guide to practitioner action research* (2nd ed.). Corwin.

Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods Volume*, 18, 1-8. doi: 10.1177/1609406919874596

Avis, W. R. (2016). *Urban governance (top guide)*. GSDRC, University of Birmingham.

Retrieved September 17, 2022, from <https://gsdrc.org/topic-guides/urban-governance/key-policy-challenges/informal-settlements/>

Bakken, L., Brown, N., & Downing, B. (2017). Early childhood education: The long-term benefits. *Journal of Research in Childhood Education*, 31(2), 255-269.

<http://dx.doi.org/10.1080/02568543.2016.1273285>

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.

Banks, J. A. (1995a). Multicultural education: Historical development, dimensions and practice. In J. A. Banks, & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (pp. 3-24). Macmillan.

Banks, J. A. (1995b). Multicultural education: Its effects on students' racial and gender role attitudes. In J. A. Banks, & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (pp. 617-627). Macmillan.

Banks, J. A. (2006a). *Cultural diversity and education: Foundations, curriculum, and teaching* (5th ed.). Pearson/Allyn and Bacon.

Banks, J. A. (2006b). Improving race relations in schools: From theory and research to practice. *The Journal of Social Issues*, 62(3), 607-614.

Banks, J. A. (2007). *Educating citizens in a multicultural society* (2nd ed.). Teachers College Press.

Batiibwe, M. S. K. (2019). Using cultural historical activity theory to understand how emerging technologies can mediate teaching and learning in a mathematics classroom: A review of literature. *Research and Practice in Technology Enhanced Learning*, 14, 12.

<https://doi.org/10.1186/s41039-019-0110-7>

Behrman, J. E., Engle, P., & Fernald, L. (2013). Preschool programmes in developing countries. In P. Glewwe (Ed.), *Education policy in developing countries: What do we know, and what should we do to understand what we don't know* (pp. 65-105). University of Chicago Press.

Berg, T. (1999). *Schools and society course syllabus*. University of Northern Iowa.

Bernard van Leer Foundation. (2021). *Annual Report 2020*. Bernard van Leer Foundation.

Biersteker, L., Dawes, A., Hendricks, L., & Tredoux, C. (2016). Center-based early childhood care and education program quality: A South African study. *Early Childhood Research Quarterly*, 36, 334-344.

Bleibinger, B., Van Niekerk, R. L., & Puebaarm A. E. (2019). *Physical and cognitive development: music, play and movement*. In A. Moodly, N. Sotuku, K. Schmidt, & N. Phatudi

(Eds.), *Early childhood care and education (0-4): a transdisciplinary approach* (pp. 141-165). Oxford.

Brains, G. (2015). *Physical development*. Retrieved September 17, 2022, from <http://goeeybrains.com/physical-development/>

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589-597.

Brink, S., & Peterson, N. (2020). The initiation and demise of a corporate social responsibility funded community engagement project in rural South Africa. *African Journal for New Generation Science*, 18(1). Retrieved September 17, 2022, from <https://hdl.handle.net/10520/EJC-208e135589>

Brodie, K. (2018). *The holistic care and development of children from birth to three. An essential guide for students and practitioners*. Routledge.

Bronfenbrenner, U. (1974). Developmental research, public policy, and the ecology of childhood. *Child Development*, 45(1), 1-5.

Buonomo, I., Benevene, P., Barbieri, B., & Cortini, M. (2020). Intangible assets and performance in nonprofit organizations: A systematic literature review. *Frontiers in Psychology*, 11, 729. <https://doi.org/10.3389/fpsyg.2020.00729>

Byrne, D. (2021). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality & Quantity*, 56(3), 1391-1412.

Calleja, C. (2014). Jack Mezirow's conceptualisation of adult transformative learning: A review. *Journal of Adult and Continuing Education*, 20(1), 117-136. <https://doi.org/10.7227/JACE.20.1.8>

Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. Routledge Falmer.

Cekiso, M., Meyiwa, T., & Mashige, M. (2019). Foundation phase teachers' experiences with instruction in the mother tongue in the Eastern Cape. *South African Journal of Childhood Education*, 9(1), 10. <https://doi.org/10.4102/sajce.v9i1.658>

Centre for Early Childhood Development. (2020). Retrieved September 17, 2022, from <https://cecd.org.za/programmes/eecd-centre-registration/>

Centre for Public Impact. (2020). *Public policies for universal early childhood education in Campinas, Sao Paulo*. Retrieved September 17, 2022, from <https://www.centreforpublicimpact.org/case-study/public-policies-universal-early-childhood-education-campinas-sao-paulo/>

Chamley, C. A. (2005). Development of the special senses. In C. A. Chamley, P. Carson, R. Duncan, & M. Sandwell (Eds.), *Anatomy and physiology of children* (pp. 277-295). Elsevier.

Charlesworth, R. (2017). *Understanding child development* (10th ed.). Cengage Learning.

Charlesworth, R., Lind, K., Kruger, C., Dreyer, H., & Laubscher, D. (2020) *Mathematics for young learners: a guide for South African educators*. Cengage Learning.

Cherry, K. (2020). A biography of Lev Vygotsky, one of the most influential psychologists. *VeryWellMind*. Retrieved September 17, 2022, from <https://www.verywellmind.com/lev-vygotsky-biography-2795533>

Child Development Institute. (2019). *Types of play*. Retrieved September 17, 2022, from <https://childdevelopmentinfo.com/child-development/play-work-of-children/pl1/#gs.i10cto>

Chitiyo, G., Taukeni, S., & Chitiyo, M. (2015). The observation method. In C. Okeke, & M. Van Wyk (Eds.), *Educational research: An African perspective* (pp. 280-295). Oxford University Press.

Clark, J. E. (1994). Motor development. In V. S. Ramachandran (Ed.), *Encyclopedia of human behavior* (3rd ed., pp. 245-255). Academic Press.

Clark, J. E. (2007). On the problem of motor skill development. *2007 Alliance Scholar Lecture*. Retrieved September 17, 2022, from [https://www.researchgate.net/publication/233635159 On the Problem of Motor Skill Development](https://www.researchgate.net/publication/233635159_On_the_Problem_of_Motor_Skill_Development)

Clark, J. E., & Metcalfe, J. S. (2002). The mountain of motor development: A metaphor. In J. E. Clark, & J. H. Humphrey (Eds.), *Motor development: Research and reviews* (pp. 163-190). NASPE. Retrieved September 17, 2022, from [https://www.researchgate.net/publication/273403393 The mountain of motor development A metaphor](https://www.researchgate.net/publication/273403393_The_mountain_of_motor_development_A_metaphor)

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). Routledge.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

*Constitution of the Republic of South Africa of 1996.*

Cooper, L., & Harlow, J. (2018). *Early childhood studies: Principles and practice* (2nd ed.). Routledge.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Dakwa, F. (2015). The interview method. In C. Okeke, & M. Van Wyk (Eds.), *Educational research* (pp. 296-315). Oxford University Press.

Dalglish, S. L., Khalid, H., & McMahon, S. A. (2020). Document analysis in health policy research: The READ approach. *Health Policy and Planning, 35*(10), 1424-1431.  
<https://doi.org/10.1093/heapol/czaa064>

Dalton, T. C. (2005). Arnold Gesell and the maturation controversy. *Integrative Physiological & Behavioral Science, 40*(4), 182-204. <https://doi.org/10.1007/BF02915215>

Daniels, H., Edwards, A., Engeström, Y, Tony Gallagher, T., & Ludvigsen, S.R. (2010). *Activity theory in practice: Promoting learning across boundaries and agencies*. Routledge.

Dawes, A., Biersteker, L., & Hendricks, L. (2012). *Towards integrated early childhood development: An evaluation of the Sobambisana initiative*. Ilifa Labantwana. Retrieved September 17, 2022, from  
<https://www.educationinnovations.org/sites/default/files/Sobambisana%20Initiative%20-%20Evaluation.pdf>

Dawes, A., Biersteker, L., Girdwood, L., Snelling, M., & Horler, J. (2019). *Early Learning Programme Outcomes Study*, Technical Report. Innovation Edge and Ilifa Labantwana. Retrieved September 17, 2022, from <http://resep.sun.ac.za/wp-content/uploads/2019/07/DAWES-ET-AL-RESEP-JULY-2019-small.pdf>

De Beer, J., & Henning, E. (2011). Retreating to a Vygotskian stage where pre-service teachers play out social, “dramatical collision”. *Acta Academica, 43*(4), 203-228. Retrieved June 10, 2022, from <https://hdl.handle.net/10520/EJC15541>

De Jager, M. (2017). *Play learn and grow: Birth-3*. Mind Moves Institute Publishing.

De Jager, M., & Victor, L. (2017). *Play learn know: A child is a work in progress*. Metz Press.

De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. (2019). *Research at grass roots: For the social sciences and human service professions*. Van Schaik.

Department of Basic Education (South Africa). (2020). *Department of Basic Education Strategic Plan 2020-2024*. Retrieved June 17, 2022, from [https://static.pmg.org.za/DBE\\_Strategic\\_Plan\\_2020\\_-2024.pdf](https://static.pmg.org.za/DBE_Strategic_Plan_2020_-2024.pdf)

Department of Basic Education (South Africa). (2009). *National early learning and development standards for children: Birth to four (NELDS)*. Government Printers. Retrieved June 17, 2021, from [http://www.ibe.unesco.org/fileadmin/user\\_upload/archive/curricula/southafrica/sa\\_ece\\_po\\_2009\\_eng.pdf](http://www.ibe.unesco.org/fileadmin/user_upload/archive/curricula/southafrica/sa_ece_po_2009_eng.pdf)

Department of Basic Education (South Africa). (2014). *Curriculum and assessment policy statement (CAPS). Foundation Phase: Grades R-3. National Curriculum Statement (NCS)*. Retrieved September 17, 2022, from [https://www.education.gov.za/Curriculum/CurriculumAssessmentPolicyStatements\(CAPS\).aspx](https://www.education.gov.za/Curriculum/CurriculumAssessmentPolicyStatements(CAPS).aspx)

Department of Basic Education (South Africa). (2015). *The South African National Curriculum Framework for children from birth to four (NCF)*. Government Printers. Retrieved September 16, 2022, from <https://www.education.gov.za/Portals/0/Documents/curriculum%20docs/NCF%202018/NCF%20English%202018%20web.pdf?ver=2018-05-14-124718-317>

Department of Basic Education (South Africa). (2022) Containment/Management of COVID 19 for schools and school communities: Guidance for childcare facilities and schools on COVID-19. Circular No 1 of 2020. Retrieved June 17, 2022, from <https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19>

Department of Basic Education (South Africa). (2022). Annual performance plan 2022/2023. Retrieved September 17, 2022, from <https://pmg.org.za/committee-meeting/34567/>

Department of Co-operative Governance and Traditional Affairs (South Africa). 2020. Disaster Management Act: Amendment of regulations: Coronavirus COVID-19 lockdown. *Government Gazette*, 16 April 2020. No 43232. Retrieved September 17, 2022, from <https://www.gov.za/documents/disaster-management-act-amendment-regulations-coronavirus-covid-19-lockdown-16-apr-2020>

Department of Education (South Africa). (2001). *Education white paper 5 on early childhood education*. Retrieved June 12, 2021, from <https://www.gov.za/documents/education-white-paper-5-early-childhood->

Department of Health (South Africa). *Road to Health Booklet*. Retrieved October 10, 2022, from <https://www.google.com/search?client=firefox-b-d&q=road+to+health+booklet>

Department of Higher Education and Training (South Africa). (2017). *Policy on minimum requirements for programmes leading to qualifications in higher education for early childhood development educators (MRQECCE)*. Retrieved September 17, 2022, from <https://www.dhet.gov.za>

Department of Higher Education and Training (South Africa). (2018). *Annual report*. Government Printers. Retrieved June 12, 2022, from [http://www.dhet.gov.za/Commissions%20Reports/DHET%20Annual%20Report%20%202017\\_18%20.pdf](http://www.dhet.gov.za/Commissions%20Reports/DHET%20Annual%20Report%20%202017_18%20.pdf)

Department of Social Development (South Africa). (2006). *Every child has the right to the best possible start in life*. Retrieved June 11, 2022, from [www.unicef.org](http://www.unicef.org)

Department of Social Development (South Africa). (2007). *Guidelines for early childhood development services*. Retrieved September 17, 2022, from [https://www.gov.za/sites/default/files/gcis\\_document/201409/childhooddev0.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/childhooddev0.pdf)

Department of Social Development (South Africa). (2014). *National Planning Commission's diagnostic overview of 2012*. Retrieved August 17, 2022, from [https://www.gov.za/sites/default/files/gcis\\_document/201409/npcdiagnosticoverview1.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/npcdiagnosticoverview1.pdf)

Department of Social Development (South Africa). (2015) *National integrated early childhood development policy*. Government Printers. Retrieved June 11, 2021, from [https://www.gov.za/sites/default/files/gcis\\_document/201610/national-integrated-eed-policy-web-version-final-01-08-2016a.pdf](https://www.gov.za/sites/default/files/gcis_document/201610/national-integrated-eed-policy-web-version-final-01-08-2016a.pdf)

Department of Social Development (South Africa). 2022. *Standard operating procedures and guidelines for an early childhood development programme and/or partial care facility that provides an after-school service on measures to address, prevent and combat the spread of Covid-19*. Retrieved June 17, 2022, from [https://www.google.com/search?q=COVID+10+SOP+guidelines+for+ECD+centres&client=firefox-b-d&ei=0ygHY9bmOMeGhbIPr5yr4Ac&ved=0ahUKEwiWnO\\_1v-](https://www.google.com/search?q=COVID+10+SOP+guidelines+for+ECD+centres&client=firefox-b-d&ei=0ygHY9bmOMeGhbIPr5yr4Ac&ved=0ahUKEwiWnO_1v-)

[H5AhVHQ0EAHS OCnwQ4dUDCA0&uact=5&oq=COVID+10+SOP+guidelines+for+ECD+centres&gs\\_lcp=Cgdnd3Mtd2l6EAMyBQghEKABMgUIIRCgAToHCAAQRxCwAzolCCEQHhAWEB06BwghEKABEApKBAhBGABKBAhGGABQ8AZYIWxg9W1oAXABeACAAf0CiAHBUplBBjltMjkuOZqBAKABAcgBCMABAQ&sclient=gws-wiz](https://www.google.com/search?client=firefox-b-d&q=Department+of+Women%2C+Children+and+People+with+Disabilities+%28South+Africa%29.+%282012%29.+A+South+Africa+fit+for+children%2C+2012-2017%3A+A+child-friendly+version+of+the+National+Plan+of+Action+for+Children+%28NPAC%29+for+the+children+of+South+Africa)

Department of Women, Children and People with Disabilities (South Africa). (2012). A South Africa fit for children, 2012-2017: A child-friendly version of the National Plan of Action for Children (NPAC) for the children of South Africa. Retrieved October 10, 2022, from <https://www.google.com/search?client=firefox-b-d&q=Department+of+Women%2C+Children+and+People+with+Disabilities+%28South+Africa%29.+%282012%29.+A+South+Africa+fit+for+children%2C+2012-2017%3A+A+child-friendly+version+of+the+National+Plan+of+Action+for+Children+%28NPAC%29+for+the+children+of+South+Africa>

Dirkx, J. M. (2012). Nurturing soul work: A Jungian approach to transformative learning. In E. W. Taylor, & P. Cranton (Eds.), *The handbook of transformative learning: Theory, research and practice* (pp. 116-130). Jossey-Bass.

*Disaster Management Act* of 2020. Retrieved June 17, 2022, from <https://www.gov.za/documents/disaster-management-act-regulations-directions-7-aug-2020-0000>

Dodds, T. (2019). Reporting with WhatsApp: mobile chat applications' impact on journalistic practices. *Digital Journalism*, 7(6). doi: 10.1080/21670811.2019.1592693

Early Childhood Education Forum. (2019). *Early childhood education*. Retrieved June 17, 2022, from <http://www.healthofchildren.com/E-F/Early-Childhood-Education.html>

Ebrahim, H. B., Okwany, A., & Barry, O. (Eds.). (2018). *Early childhood care and education at the margins: African perspectives on birth to three*. Routledge.

Ebrahim, H., & Phatudi, N. (2018). Rights-based early childhood development in South Africa. In C. Pascal, T. Bertram, & M. Veisson (Eds.), *Early childhood education and change in diverse contexts* (pp. 29-45). Routledge.

Education, Training and Development Practices Sector Education and Training Authority. (2013). *EDTP SETA Private Higher Education Sector Skills Plan: 2013-2014 update*. Retrieved February 16, 2022, from <https://www.google.com/search?client=firefox-b-d&q=scholarly+article+on+EDTP-SETA++certificates>

- Elliot, D. L., & Campbell, T. (2015). "Really on the ball": Exploring the implications of teachers' PE-CPD experience. *Sport, Education and Society*, 20(3), 381-397.  
<https://doi.org/10.1080/13573322.2013.765400>
- Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, 14(1), 133-156.
- Engeström, Y., & Pyörälä, E. (2021). Using activity theory to transform medical work and learning. *Medical Teacher*, 43(1), 7-13. <https://doi.org/10.1080/0142159X.2020.1795105>
- Engle, P. F. (2011). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. *The Lancet*, 378(9799), 1339-1353.
- Essa, L. E. (2014). *Introduction to early childhood education* (7th ed.). Cengage Wadsworth.
- Esterhuizen, S., & Grosser, M. (2014). Improving some cognitive functions, specifically executive functions in Grade R learners. *South African Journal of Childhood Education*, 4(1), 111-138.
- Excell, L., & Linington, V. (2020). *Playful early childhood care and education*. Juta.
- Fahey, T. D., Insel, P. M., & Roth, W. T. (2006). *Fit and well: Core concepts and labs in physical fitness and wellness* (7th ed.). McGraw-Hill.
- Finger, G., & Houguet, B. (2009). Insights into the intrinsic and extrinsic challenges for implementing technology education: Case studies of Queensland teachers. *International Journal of Technology and Design Education*, 19, 309-334. doi: 10.1007/s10798-007-9044-2
- Flick, U. (2014). Challenges for qualitative inquiry as a global endeavor: Introduction to the special issue. *Qualitative Inquiry*, 20(9), 1059-1063.
- Foot, K. A. (2014) Cultural-historical activity theory: Exploring a theory to inform practice and research. *Journal of Human Behavior in the Social Environment*, 24(3), 329-347. doi: 10.1080/10911359.2013.831011
- Formiga, C.K.M.R, & Linhares, M.B.M. (2015). Motor skills: development in infancy and early childhood. In J. D. Wright (Eds.), *International encyclopedia of the social & behavioral sciences* (2nd ed., pp. 971-977). Elsevier.

Frey, B. (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation* (Vol. 1-4). Sage.

Fung ASK. (2017). Music enables the holistic development and discovery of self: a phenomenological study of two Christian musicians. *Psychology of Music*, 45(3), 400-416. doi: 10.1177/0305735616665911

Gabbard, C. P. (2022). *Lifelong motor development* (8th ed.). Wolters Kluwer.

Gabriel, A., Monticolo, D., Camargo, M., & Bourgault, M. (2015). *Conference: 2015 11th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*, 693-697. <http://doi.org/10.1109/SITIS.2015.114>

Gallahue, D. L. (1998). Motor development: a descriptive and analytic perspective. In R. J. Krebs, F. Copetti, & T. S. Beltrame (Eds.), *Discutindo o desenvolvimento infantil* (pp. 65-90). Sociedade Internacional para Estudos da Crianca.

Gallahue, D. L., & Donnelly, F. C. (2003). *Developmental physical education for all children* (4th ed.). Human Kinetics.

Gallahue, D. L., Ozmun, J. C., & Goodway, J. (2012). *Understanding motor development: Infants, children, adolescents, adults*. (8th ed.). McGraw-Hill.

Gallahue, L. D., Ozmun, J. C., & Goodway, J. D. (2011). *Understanding motor development: Infants, children, adolescents, adults* (7th ed.). McGraw-Hill.

Gennerman, T. (2014). *Accommodations/modification/interventions*. Jersey City Public Schools Department of Special Education. Retrieved September 17, 2022, from <https://4.files.edl.io/6fdd/04/04/19/213942-f23c54d7-c50a-4e2d-a391-d822eccd15b2.pdf>

Gesell, A. (1925). Pre-school development and education. *The ANNALS of the American Academy of Political and Social Science*, 121(1), 148-150. <https://doi.org/10.1177/000271622512100122>

Ghaye, T., Melander-Wikman, A., Kisare, M., Chambers, P., Bergmark, U., Kostenius, C., & Lillyman, S. (2008). Participatory and appreciative action and reflection (PAAR) – democratizing reflective practices. *Reflective Practice*, 9(4), 361-397.

Giese, S. (2020, 11 October). The collapse of early childhood development is a constitutional crisis – urgent action is needed now. *Daily Maverick*. Retrieved August 11, 2022, from

<https://www.dailymaverick.co.za/article/2020-10-01-the-collapse-of-early-childhood-development-is-a-constitutional-crisis-urgent-action-is-needed-now/>

Giese, S. (2022). *A spotlight on South Africa's thrive by five index. Together for early childhood evidence: consortium on pre-primary data and measurement in Africa*. Research Technical Assistance Centre. Retrieved January 10, 2022, from <https://www.rtachesn.org/together-for-ece-news-story/a-spotlight-on-south-africas-thrive-by-five-index/>

Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). (2015). *Health behaviour: Theory, research, and practice*. Jossey-Bass. Retrieved June 17, 2022, from <https://ebookcentral-proquest-com.nwulib.nwu.ac.za>

Gonzalez, S. L., Alvarez, V., & Nelson, E. L. (2019). Do gross and fine motor skills differentially contribute to language outcomes? A systematic review. *Frontiers in Psychology, 10*, 2670. <https://doi.org/10.3389/fpsyg.2019.02670>

Goodway, D. J., Ozmun, J. C., & Gallahue, D. L. (2021). *Understanding motor development: Infants, children, adolescents, adults* (8th ed.). Jones & Bartlett Learning.

Gordon, A. M., & Browne, K. W. (2016). *Beginnings & beyond: Foundations in early childhood education*. Cengage Learning.

Government of Netherlands, Ministry of Education, Culture and Science. (2021). Accessing early childhood education (VVE) for native Dutch speaking toddlers and pre-school-age children. Retrieved June 19, 2022, from <https://www.government.nl/topics/language-disadvantage/early-childhood-education-for-native-dutch-speaking-toddlers-and-pre-school-age-children>

Gradellini, C., Gómez-Cantarino, S., Dominguez-Isabel, P., Molina-Gallego, B., Mecugni, D., & Ugarte-Gurrutxaga, M. I. (2021). Cultural competence and cultural sensitivity education in university nursing courses. A scoping review. *Frontiers in Psychology, 12*, 682920. <https://doi.org/10.3389/fpsyg.2021.682920>

Grow, H. M. (2020). *What is motor or physical development?* Retrieved September 17, 2022, from <https://helpmegrowmn.org/HMG/HelpfulRes/Articles/WhatMotorPhysicalDev/index.html:1>

Harkness, S., Super, C. M., Mavridis, C. J., Barry, O., & Zeitlin, M. (2013). Culture and early childhood development: Implications for policy and programs. In P. R. Britto, P. L. Engle, & C.

M. Super (Eds.), *Handbook of early childhood development research and its impact on global policy* (pp. 142-160). Oxford University Press.

Harris, L. R. (2020). Does the vestibular system exert specific or general influences on cognitive processes? *Cognitive Neuropsychology*, 37(7-8), 430-432. doi: 10.1080/02643294.2020.1785412

Harrison, G. D. (2020). A snapshot of early childhood care and education in South Africa: Institutional offerings, challenges and recommendations. *South African Journal of Childhood Education*, 10(1), a797. <https://doi.org/10.4102/sajce.v10i1.797>

Hartas, D. (2010). *Educational research and inquiry: Qualitative and quantitative approaches*. Continuum.

Haywood, K. M., & Getchell, N. (2020). *Life span motor development* (7th ed.). Human Kinetics.

Heath, H. (2019). *What is ECD category?* Rampfeshudson. Retrieved June 8, 2022, from <https://www.rampfeshudson.com/what-is-ecd-category/>

Herr, K., & Anderson, G. L. (2015). *The action research dissertation: A guide for students and faculty* (2nd ed.). Sage.

Hestbaek, L., Andersen, S. T., & Skovgaard, T. (2017). Influence of motor skills training on children's development evaluated in the motor skills in preschool (MiPS) study – DK: Study protocol for a randomized controlled trial, nested in a cohort study. *Trials*, 18, a400. <https://doi.org/10.1186/s13063-017-2143-9>

Heystek, J., & Terhoven, R. (2015). Motivation as critical factor for teacher development in contextually challenging underperforming schools in South Africa. *Professional Development in Education*, 41(4), 624-639. <https://doi.org/10.1080/19415257.2014.940628>

Hoggan, C. D. (2016). Transformative learning as a metatheory: Definition, criteria, and typology. *Adult Education Quarterly*, 66(1), 57-75. <https://doi.org/10.1177/0741713615611216>

Ilifa Labantwana. (2014). *The essential package: Early childhood services and support to vulnerable children in South Africa*. Retrieved September 17, 2022, from <https://ilifalabantwana.co.za/the-essential-package-of-ecd-services-and-support-to-vulnerable-children-in-south-africa/>

Ilifa Labantwana. (2017). South African Early Childhood Review (SAECR). Retrieved September 17, 2022, from <https://ilifalabantwana.co.za/project/south-african-early-childhood-review-2017-2/>

Ilifa Labantwana. (2019). South African Early Childhood Review (SAER). Retrieved September 17, 2022, from <https://ilifalabantwana.co.za/project/south-african-early-childhood-review-2019-resource/>

Jailobaev, T., Jailobaeva, K., Baialieva, M., Baialieva, G., & Asilbekova, G. (2021). WhatsApp groups in social research: New opportunities for fieldwork communication and management. *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique*, 149(1), 60-82. <https://doi.org/10.1177/0759106320978337>

Jenkins, B. A., Ellen, A., & Lumpkin, A. E. (2017). Developing a sense of touch. *Development*, 144(22), 4078-4090. <https://doi.org/10.1242/dev.120402>

Johnston, J., & Sanders, A. (2018). Developing your own philosophy. In J. Johnston, L. Nahmad-Williams, R. Oates, & V. Wood (Eds.), *Early childhood studies: principles and practice* (2nd ed., pp. 54-83). Routledge.

Joubert, I., Hartell, C., & Lombard, K. (2016). *Navorsing: 'n Gids vir die beginnervorsers*. Van Schaik.

Keen, C. H., & Woods, R. (2016). Creating activating events for transformative learning in a prison classroom. *Journal of Transformative Education*, 14(1), 15-33. <https://doi.org/10.1177/1541344615602342>

Kemmis, S., & McTaggart, R. (2005). Participatory action research: Communicative action and the public sphere. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed., pp. 559-604). Sage.

Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner: Doing critical participatory action research*. Springer.

Kilasi, L. F. (2019). *Appraising assessment tools' potential for fostering children's holistic development in Dodoma city pre-primary classes*. (Doctoral dissertation). University of Dodoma.

Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education*, 6(2), 104-123.

- Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, 6(5), 26-41.
- Kligyte, G. (2011). Transformation narratives in academic practice. *International Journal for Academic Development*, 16(3), 201-213. <https://doi.org/10.1080/1360144X.2011.596703>
- Knowles, M. S. (1973). *The adult learner: A neglected species*. Didactic Systems.
- Knowles, M. S. (1984). *Andragogy in action*. Jossey Bass.
- Knowles, M. S., Holton E. F., & Swanson, R. A. (2015). *The adult learner: the definitive classic in adult education and human resource development* (8th ed.). Routledge.
- Koen, M., Neethling, M. M., Esterhuizen, S., & Taylor, B. (2021). The impact of Covid-19 on the holistic development of young South African at-risk children in three early childhood care and education centres in a rural area. *Perspectives in Education*, 39(1), 138-156.
- Koszalka, T.A., & Wu, C. (2004). A cultural historical activity theory [CHAT] analysis of technology integration: Case study of two teachers. Retrieved September 17, 2022, from [https://www.researchgate.net/publication/251434047\\_A\\_cultural\\_historical\\_activity\\_theory\\_CHAT\\_analysis\\_of\\_technology\\_integration\\_Case\\_study\\_of\\_two\\_teachers](https://www.researchgate.net/publication/251434047_A_cultural_historical_activity_theory_CHAT_analysis_of_technology_integration_Case_study_of_two_teachers)
- Kretzer, M. M., & Kaschula, R. H. (2020). (Unused) potentials of educators' covert language policies at public schools in Limpopo, South Africa. *Current Issues in Language Planning*, 21(3), 254-278. doi: 10.1080/14664208.2019.1641349
- Kuther, T. L. (2018). *Lifespan development: Lives in context*. Sage.
- Lacey, P., & Smith, P. (2010). Inclusive libraries. *Journal of Assistive Technologies*, 35(1), 56-71.
- Lessem, R. (2017). *Embodying integral development: A holistic approach*. Routledge.
- Lewis, R. (2020). *What are the primitive reflexes and how are they useful?* Healthline Parenthood. Retrieved February 23, 2021, from <https://www.healthline.com/health/baby/primitive-reflexes>
- Louw, D., & Louw, A. (2014). *Die ontwikkeling van die kind en die adolessent* (2nd ed.). Psychology Publications.

Louw, D., & Louw, A. (2019). *Child and adolescent development* (2nd ed.). Psychology Publications.

Mahadew, A., & Hlalele, D. J. (2022). Understanding inclusion in early childhood care and education: A participatory action learning and action research study. *South African Journal of Childhood Education*, 12(1), a1073. <https://doi.org/10.4102/sajce.v12i1.1073>

Malik, F., & Marwaha, R. (2021). *Developmental stages of social emotional development in children*. StatPearls Publishing.

Maree, K. (2019). Planning a research proposal. In K. Maree (Ed.), *First steps in research*, (3rd ed., pp. 26-47). Van Schaik.

Margot-Gattin, I., Page, J., Petrig, A., Rossini, E., Agustoni, S., Galli-Hudec, C., Roos, K., & Meyer, S. (2018). Creating a continuing professional development course on setting occupation-focused goals. *World Federation of Occupational Therapists Bulletin*, 74(1), 44-51. <https://doi.org/0.1080/14473828.2018.1434469>

Marotz, L. R. (2020). *Health, safety and nutrition for the young child* (10th ed.). Cengage.

Marquardt, M. (1999). *Action learning in action: transforming problems and people for world-class organizational learning*. Davies-Black.

Mayaka, B., & Truell, R. (2021). Ubuntu and its potential impact on the international social work profession. *International Social Work*, 64(5), 649-662. <https://doi.org/10.1177/00208728211022787>

McGrath, V. (2009). Reviewing the evidence on how adult students learn: An examination of Knowles model of andragogy. *The Adult Learner: The Irish Journal of Adult and Community Education*, 99-110. Retrieved September 17, 2022, from <https://www.aontas.com/assets/resources/Adult-Learner-Journal/AONTAS%20Adult%20Learner%20Journal%202009.pdf>

McNair, L., Ravenscroft, J., Rizzini, I., Tisdall, K., Biersteker, L., Shabalala, F. S., Thwala, S. K., Dlamini, C. N., Bush, M., Gwele, M., & Berry. (2022). *Early childhood education in differing contexts*. Retrieved September 17, 2022, from [https://scholar.google.co.za/scholar?q=Biersteker+scholarly+article+ECCE&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholart](https://scholar.google.co.za/scholar?q=Biersteker+scholarly+article+ECCE&hl=en&as_sdt=0&as_vis=1&oi=scholart)

McNiff, J., & Whitehead, J. (2010). *You and your action research project* (3rd ed.). Routledge.

- Mcube, V. (2008). Democratisation of education in South Africa: Issues of social justice and the voice of learners? *South African Journal of Education*, 28(1), 77-90. Retrieved June 17, 2021, from <http://hdl.handle.net/10019.1/103230>
- Merriam, S. B. (2001). *Qualitative research and case study applications in education* (2nd ed.). Jossey-Bass.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly*, 46(3), 158-172.
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 1997(74), 5-12.
- Mezirow, J. (2000). *Learning as transformation: critical perspectives on a theory in progress*. The Jossey-Bass higher and adult education series. Jossey-Bass Publishers.
- Mezirow, J. (2000). Learning to think like an adult. *Learning as transformation: Critical Perspectives on a Theory in Progress*, 3-33.
- Mezirow, J. (2011). An overview on transformative learning. In K. Illeris (Ed.), *Contemporary theories of learning* (pp. 90-105). Routledge.
- Mezirow, J. (2018). Transformative learning theory. In K. Illeris (Eds.), *Contemporary theories of learning* (pp. 114-128). Routledge.
- Mills, G. E. (2018). *Action research: a guide for the teacher researcher* (6th ed.). Pearson.
- Ministry of Human Resource Development (India). (2019). *Draft National Education Policy 2019*. Government of India. Retrieved February 17, 2021, from <https://innovate.mygov.in/wp-content/uploads/2019/06/mygov15596510111.pdf>
- Ministry of Women and Child Development (India). (2010). *Annual report 2009-10*. Government of India. Retrieved February 17, 2021, from <https://wcd.nic.in/sites/default/files/AR2009-10.pdf>
- Morales, M. P. E. (2016). Participatory action research (PAR) cum action research (AR) in teacher professional development: A literature review. *International Journal of Research in Education and Science*, 2(1), 156-165.

Morris, B. (2018, 7 May). Analysis: South Africa's deficient education system. *News24 & City Press*. Retrieved September 17, 2022, from <https://www.news24.com/Analysis/south-africas-deficient-education-system-20180507>

Morris, K. (2019). Children's development, capability approaches and postdevelopmental child: The birth to four curriculum in South Africa. *Global Studies of Childhood*, 9(1), 56-71.

National Association of Social Entities in Education. (2019). National Association of Social Entities in Education (NASCEE) @work Newsletter January 2019. Retrieved September 17, 2022, from <https://admin.jet.org.za/resources/nascee-newsletter-vol-1-january-2019-docx.pdf>

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (United States). (1978). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research*. Retrieved July 12, 2022, from <https://digital.library.unt.edu/ark:/67531/metadc1213679/>

Ndamba, G., & Van Wyk, M. (2016). Portfolios in teaching practice – paper-based versus e-based portfolios. In C. Okeke, J. Abongdia, E. O. Adu, M. Van Wyk, & C. C. Wolhuter (Eds.), *Learn to teach: A handbook for teaching practice* (pp. 264-284). Oxford University Press.

Nel, N. M., Tlale, L. D. N., Engelbrecht, P., & Nel, M. (2016). Teachers' perceptions of education support structures in the implementation of inclusive education in South Africa. *Koers*, 81(3), 1-14. <https://dx.doi.org/10.19108/koers.81.3.2249>

Neuman, M. J., & Hatipoğlu, K. (2015). Global gains and growing pains: Pre-primary education around the world. *Early Childhood Matters*, 124, 43-50. Retrieved June 8, 2022, from <https://bernardvanleer.org/publications-reports/a-good-start-advances-in-early-childhood-development/>

Newell, K. M. (2020). What are fundamental motor skills and what is fundamental about them? *Journal of Motor Learning and Development*, 8, 280-314. <https://doi.org/10.1123/jmld.2020-0013>

Nguyen, T. T. L. (2019). Selection of research paradigms in English language teaching: Personal reflections and future directions. In J. Suhadi (Ed.), *The Second Annual International Conference on Language and Literature, KnE Social Sciences* (pp. 1-19). <https://doi.org/10.18502/kss.v3i19.4826>

Nieuwenhuis, J. (2019). Introducing qualitative research. In K. Maree (Ed.), *First steps in research* (3rd ed., pp. 50-69). Van Schaik.

Nonjinge, G. (2018, 1 March). If education is really a priority, we'll have to do things differently, *News 24*. Retrieved September 17, 2022, from <https://www.news24.com/Columnists/GuestColumn/if-education-is-really-a-priority-well-have-to-do-things-differently-20180301>

Nussbaumer, D. (2012). An overview of cultural historical activity theory (CHAT) use in classroom research 2000 to 2009. *Educational Review*, 64(1), 37-55. doi: 10.1080/00131911.2011.553947

Office of the Presidency (South Africa). (2019). State of the Nation Address by President Cyril Ramaphosa, Parliament, Cape Town, 20 Jul. Retrieved June 17, 2022, from <http://www.thepresidency.gov.za/speeches/state-nation-address-president-cyril-ramaphosa%2C-parliament%2C-cape-town>

Okwany, A., & Ebrahim, H. B. (2019). Creating visibility for birth to 3 in Africa: A push from the margins. In B. E. Ebrahim, A. Okwany, & O. Barry (Eds.), *Early childhood care and education at the margins: African perspectives on birth to three* (pp. 1-15). Routledge.

Organisation for Economic Co-operation and Development. (2016). Starting strong IV. *Early Childhood Education and Care Data Country Note*. Retrieved January 11, 2022, from <http://www.oecd.org/education/school/ECECDCN-Netherlands.pdf>

Organisation for Economic Co-operation and Development. (2017). Contextual factors influencing policies on early childhood education and care. In *Starting strong 2017: Key OECD indicators on early childhood education and care*. OECD Publishing. Retrieved September 16, 2022, from <https://doi.org/10.1787/9789264276116-4-en>

Organisation for Economic Co-operation and Development. (2019). *Providing quality early childhood education and care: Results from the starting strong survey 2018*, TALIS. OECD Publishing. Retrieved July 17, 2022, from <https://doi.org/10.1787/301005d1-en>

Pappas, C. (2013, 9 May). The adult learning theory – Andragogy – of Malcolm Knowles [Blog post]. *eLearning Industry*. Retrieved September 17, 2022, from <https://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles>

Pascal, M. C. (2016). *Early childhood theories and contemporary issues* (3rd ed.). Bloomsbury Academic.

Paul, R., & Singh, A. (2020). Does early childhood adversities affect physical, cognitive and language development in Indian children? Evidence from a panel study. *SSM – Population Health*. doi: 10.1016/j.ssmph.2020.100693

Pegg, J., Reading, C., & Williams, M. (2007). *Partnerships in ICT learning study*. Department of Science, Education and Training. Retrieved August 17, 2021, from <http://www.une.edu.au/simerr/pages/projects/26ictpartnershipsreportfull.pdf>

Petersen, N., De Beer, J., & Mentz, E. (2020). The first-year student teacher as a self-directed learner. In J. de Beer, N. Petersen, & H. J. van Vuuren (Eds.), *Becoming a teacher: Research on the work-integrated learning of student teachers* (NWU Self-Directed Learning Series Vol. 4, pp. 115-155). AOSIS. Retrieved June 1, 2021, from <https://doi.org/10.4102/aosis.2020.BK215.05>

*Protection of Personal Information Act 4 of 2013*.

Proudlock, P. (2018). A closer look at birth certificates. In K. Hall, L. Richter, Z. Mokomane, & L. Lake (Eds.), *South African Child Gauge 2018: Children, families and the state* (pp. 118-119). Children's Institute (UCT).

Raju, N. V., & Harinarayana, N. S. (2016). Online survey tools: A case study of Google Forms. Paper presented at the National Conference on Scientific, Computational & Information Research Trends in Engineering, GSSS-IETW. Retrieved September 17, 2022, from [https://www.researchgate.net/publication/326831738\\_Online\\_survey\\_tools\\_A\\_case\\_study\\_of\\_Google\\_Forms](https://www.researchgate.net/publication/326831738_Online_survey_tools_A_case_study_of_Google_Forms)

Rala, N., & Salami, I. (2019). Early childhood developmental milestones: A transdisciplinary approach towards early childhood services. In A. Moodly, N. Sotuku, K. Schmidt, & N. Phatudi (Eds.), *Early childhood care and education (0-4): A transdisciplinary approach* (pp. 46-66). Oxford.

Rao, N. S., Sun, J., Wong, J. M. S., Weekes, B., Ip, P., Shaeffer, S., Young, M., Bray, M., Chen, E., & Lee, D. (2014). *Early childhood development and cognitive development in developing countries: A rigorous literature review*. Department for International Development. Retrieved August 12, 2021, from

<https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/ECD%202014%20Rao%20report.pdf?ver=2014-10-02-145634-017>

Revans, R. W. (1982). *The origin and growth of action learning*. Chartwell-Bratt.

Ritchie, J., Lewis, J., McNaughton Nicholls, C., & Ormston, R. (2013). *Qualitative research practice: A guide for social science students and researchers*. Sage.

Roessger, K. M. (2014). The effect of reflective activities on instrumental learning in adult work-related education: A critical review of the empirical research. *Educational Research Review*, 13, 17-34. <https://doi.org/10.1016/j.edurev.2014.06.002>

Rosa, E. M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of Family Theory & Review*, 5(4), 243-258. doi: 10.1111/jftr.12022

Rose, A. D. (2015). Search for purpose: Mezirow's early view of transformative learning. In *Proceedings of the 56th Annual Adult Education Research Conference*, Manhattan, 39-44. Retrieved September 17, 2021, from [https://conferences.k-state.edu/adult-education/files/2015/02/AERC-Proceedings\\_2015-oawrnt.pdf](https://conferences.k-state.edu/adult-education/files/2015/02/AERC-Proceedings_2015-oawrnt.pdf)

Roth, W. M. (2012). Cultural-historical activity theory: Vygotsky's forgotten and suppressed legacy and its implication for mathematics education. *Mathematics Education Research Journal*, 24(1), 87-104.

Saldaña, J. (2013). The drama and poetry of qualitative method. In M. Cahnmann-Taylor, & R. Siegesmund (Eds.), *Arts-based research in education* (pp. 238-246). Routledge.

Salehi, S. K., Sheikh, M., & Talebrokni, F. S. (2017). Comparison exam of Gallahue's hourglass model and Clark and Metcalfe's the mountain of motor development metaphor. doi: 10.4236/ape.2017.73018

Sheridan, S. M., Pope Edwards, C., Marvin, C. A., & Knoche, L. L. (2009). Professional development in early childhood programmes: process issues and research needs. *Early Education and Development*, 20(3), 377-401. <https://doi.org/10.1080/10409280802582795>

Smith, C., King, B., & Gonzalez, D. (2016). Using multimodal learning analytics to identify patterns of interactions in a body-based mathematics activity. *Journal of Interactive Learning Research*, 27(4), 355-379.

Sotuku, N., & Duku, S. (2015). Ethics in human sciences research. In C. Okeke, & M. Van Wyk (Eds.), *Educational research: An African approach* (pp. 296-315). Oxford University Press.

South African Government. (2020). *National programme of action for children: Framework*. Retrieved September 9, 2022, from <https://www.gov.za/documents/national-programme-action-children-framework>

South African Qualifications Authority. (2020). Retrieved September 17, 2022, from <https://www.saga.org.za/registration-qualifications-and-part-qualifications>

Spaull, N. (2017). *Progress in International Reading Literacy Study (PIRLS) 2016*. South African Children's Reading Literacy Achievement.

Statistics South Africa. (2014). *Census 2011: Profile of persons with disabilities in South Africa*. Report no. 03-01-59. Retrieved January 17, 2022, from <https://www.statssa.gov.za/publications/Report-03-01-59/Report-03-01-592011.pdf>

Statistics South Africa. (2017). Education series Volume iii: Educational enrolment and achievement, 2016. Retrieved January 17, 2022, from [http://www.statssa.gov.za/publications/Report%2092-01-03/Education\\_Series\\_iii.pdf](http://www.statssa.gov.za/publications/Report%2092-01-03/Education_Series_iii.pdf)

Steinert, J. I., Nyarige, D. A., Jacobi, M., Kuhnt, J., & Kaplan, L. (2021). A systematic review on ethical challenges of "field" research in low-income and middle-income countries: Respect, justice and beneficence for research staff? *BMJ Global Health*, 6(7). Retrieved June 4, 2022, from <https://gh.bmj.com/content/6/7/e005380.abstract>

Subramanian, S. (2019). *India's policy on early childhood education: Lessons for a gender-transformative early childhood in India*. Centre for Universal Education at Brookings. Retrieved August 10, 2022, from <https://www.brookings.edu/research/indias-policy-on-early-childhood-education/>

Sutherland, K. A. (2013). The importance of critical reflection in and on academic development. *International Journal for Academic Development*, 18(2), 111-113. <https://doi.org/https://doi.org/10.1080/1360144X.2013.802074>

Swanson, K. W. (2010). Constructing a learning partnership in transformative teacher development. *Reflective Practice*, 11(2), 259-269. <http://doi.org/10.1080/14623941003672428>

Szalavitz, M. (2010). *Psychology today: touching empathy: Lack of physical affection can actually kill babies*. Retrieved May 17, 2022, from <https://www.psychologytoday.com/us/blog/born-love/201003/touching-empathy>

Taylor, B., Neethling, M., & Seleti, J. (2020). Early childhood education: benefitting from the BRICS experience by a new front of education development in South Africa. In C.C. Wolhuter (Ed.), *Critical issues in South African education: Illumination from international comparative perspectives from the BRICS countries* (BRICS Education Vol. 2, pp. 59-107). AOSIS. <https://doi.org/10.4102/aosis.2020.BK207.03>

Taylor, E. W., & Laros, A. (2014). Researching the practice of fostering transformative learning: Lessons learned from the study of andragogy. *Journal of Transformative Education*, 12(2), 134-147. <https://doi.org/10.1177/1541344614548589>

TheDialogue. (2021). Brazil: Progress report of early childhood development policies. Retrieved September 17, 2022, from <https://www.thedialogue.org/analysis/brazil-progress-report-of-early-childhood-development-policies/>

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8(45), 1-10. <https://doi.org/10.1186/1471-2288-8-45>

Townsend, A. (2013). *Action research: The challenges of understanding changing practice*. Open University Press.

United Nations Children's Fund. *Strategic plan 2022-2025. Renewed ambition towards 2030*. Retrieved September 17, 2022, from <https://www.unicef.org/reports/unicef-strategic-plan-2022-2025>

United Nations Educational, Scientific and Cultural Organisation. (2015). *Global monitoring report – Education for All 2000-2015: Achievements and challenges*. Retrieved May 17, 2022, from <https://en.unesco.org/gem-report/report/2015/education-all-2000-2015-achievements-and-challenges>

United Nations Educational, Scientific and Cultural Organisation. (2019). *Early childhood care and education*. Retrieved May 17, 2022, from <https://en.unesco.org/themes/early-childhood-care-and-education>

United Nations South Africa. 2022. Sustainable Development Goals: 4 quality education. <https://southafrica.un.org/en/sdgs/4>

Urban Child Institution. (2012). *Enhancing development through the sense of touch*. Retrieved September 17, 2022, from <http://www.urbanchildinstitute.org/articles/research-to-policy/research/enhancing-development-through-the-sense-of-touch>

Van Bergen, P., & Andrews, R. (2022). When and why do early childhood educators reminisce with children about their past experiences? *International Journal of Early Years Education*, 30(1), 71-86.

Van der Berg, S., & Spaull, N. (2020). *Counting the cost: Covid-19 school closures in South Africa & its impact on children*. University of Stellenbosch Research and Socio-Economic Policy Group.

Voko, K., Duci, V., & Tahsini, I. (2014). *Role of teachers in support of individual holistic development according to the age groups, 9-15*. Save the Children. Retrieved June 9, 2021, from [https://resourcecentre.savethechildren.net/pdf/9\\_ieeccd\\_alb\\_role\\_of\\_teachers\\_to\\_support\\_individual\\_holistic\\_development\\_english.pdf](https://resourcecentre.savethechildren.net/pdf/9_ieeccd_alb_role_of_teachers_to_support_individual_holistic_development_english.pdf)

Vorster, Adri, Sacks, Ashleigh, Amod, Zaytoon, Seabi, Joseph, & Kern, Anwynne. (2016). The everyday experiences of early childhood caregivers: Challenges in an under-resourced community. *South African Journal of Childhood Education*, 6(1), 1-9. <https://dx.doi.org/10.4102/sajce.v6i1.257>

Wells, G. (2011). Integrating CHAT and action research. *Mind, Culture, and Activity*, 18(2), 161-180. doi: 10.1080/10749039.2010.493594.

Westwood, T. (2012). School and creche health. In M. Kibel, T. Westwood, & H. Salooje (Eds.), *Child health for all: A manual for southern Africa* (pp. 242-244). Oxford University Press.

Wighus, M., & Bjork, I. T. (2018). An educational intervention to enhance clinical skills learning: Experiences of nursing students and teachers. *Nurse Education in Practice*, 29, 143-149. <https://doi.org/10.1016/j.nepr.2018.01.004>.

Williams, D. T., & Mann, L. T. (2011). *Early childhood education in rural communities: access and quality issues*. UNCF/D Patterson Research Institution. Retrieved April 14, 2022, from <http://www.uncf.org/fdpri>

- Witkowska, A. (2021). *Understand babies: How engaging with your baby's movement development helps build a loving relationship*. Printer & Martin.
- Wolhuter, C. C. (1998). Spektroskopie van die Suid-Afrikaanse onderwysstelsel binne die internasionale ry van nasionale onderwysstelsels. *Suid-Afrikaanse Tydskrif vir Opvoedkunde*, 18(9), 9-19.
- Wood L. (2017). The ethical implications of community-based research: A call to rethink current review board requirements. *International Journal of Qualitative Methods*. doi: 10.1177/1609406917748276
- Wood, L. (2019). *Participatory action learning and action research: Theory, practice and process*. Routledge.
- Wood, L. (2020). *Participatory action learning and action research: Theory, practice and process*. Routledge.
- Wood, L. (2022). An ethical, inclusive and sustainable framework for community-based research in higher education. In L. Wood (Ed.), *Community-based research with vulnerable populations* (pp. 267-292). Springer.
- Wood, L., & Zuber-Skerritt, O. (2013). PALAR as a methodology for community engagement by faculties of education. *South African Journal of Education*, 33(4), 1-15.  
<http://doi.org/10.15700/201412171322>
- Woolfolk, A., & Perry, N. E. (2012). *Child and adolescent development*. Pearson.
- Worall, L., & Harris, K. (2013). Using action research to investigate social networking technologies. *Electronic Journal of e-learning*, 11(2), 115-123. Retrieved April 17, 2022, from <https://files.eric.ed.gov/fulltext/EJ1012877.pdf>
- World Health Organisation. (2018). *Nurturing care for early childhood development: A framework for helping children survive and thrive to transform health and human potential*. Retrieved April 17, 2022, from <https://apps.who.int/iris/bitstream/handle/10665/272603/9789241514064-eng.pdf>
- World Health Organisation. (2020). *Covid-19 virtual press conference*. Retrieved January 8, 2022, from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/press-briefings/previous/2>

Wright, K. B. (2017). Researching internet-based populations: advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3), 1.

Yamagata-Lynch, L. C. (2014). *Activity systems analysis methods: Understanding complex learning environments*. Springer. doi: 10.1007/978-1-4419-6321-5

Yan, T., Deng, M., & Ma, Y. (2019). Chinese regular education teachers' perceptions of the holistic development of students with special educational needs in inclusive school. *International Journal of Inclusive Education*, 25(6), 686-704. doi: 10.1080/13603116.2019.1572233

Zhang, H., Chan, P. W. K. C., & Boyle, C. (2014). *Equality in education: fairness and inclusion*. Sense Publishing.

Zhu, X., & Li, J. (2019). Being a teacher of holistic profession: A perspective of transformative learning. *Beijing International Review of Education*, 1, 472-487.

<http://doi.org/10.1163/25902539-00102004>

Zuber-Skerritt, O. (2011). *Action leadership: Towards a participatory paradigm*. Springer.

Zuber-Skerritt, O. (2012). *Action research for sustainable development in a turbulent world*. Emerald Publishing.

Zuber-Skerritt, O. (2015). Participatory action learning and action research (PALAR) for community engagement: A theoretical framework. *Educational Research for Social Change*, 4(1), 2221-407. Retrieved September 17, 2022, from

<http://ersc.nmmu.ac.za/articles/Vol 4 No 1 Zuber-Skerrit pp 5-25 April 2015.pdf>

Zuber-Skerritt, O. (2018). An educational framework for participatory action learning and action research (PALAR). *Educational Action Research*, 26(4), 513-532.

<https://doi.org/10.1080/09650792.2018.1464939>

Zuber-Skerritt, O., & Wood, L. (2019). *Action learning and action research: genres and approaches*. Emerald Publishing. <https://doi.org/10.1108/978-1-78769-537-520191001>

Zulu, P. P., Aina, A. Y., & Bipath, K. (2022). Education and training experiences of early childhood care and education practitioners in rural and urban settings of Durban, South Africa. *South African Journal of Childhood Education*, 12(1), a1167.

<https://doi.org/10.4102/sajce.v12i1.1167>

## ANNEXURE A: RESEARCH ETHICS COMMITTEE 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: 018 299-4849  
Email: [nkosinathi.machine@nwu.ac.za](mailto:nkosinathi.machine@nwu.ac.za)

### ETHICS APPROVAL LETTER OF STUDY

Based on approval by the **Education Sciences Research Ethics Committee (EduREC)** on 29 September 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.

<b>Study title: Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach</b>			
<b>Study Leader/Supervisor (Principal Investigator)/Researcher: Dr MM Neethling</b>			
<b>Student / Team: B Taylor (PhD student - 13096613); Dr S Esterhuizen</b>			
<b>Ethics number:</b>	<b>N</b>	<b>W</b>	<b>U</b>
	-	<b>0</b>	<b>1</b>
		<b>2</b>	<b>0</b>
		<b>7</b>	<b>-</b>
		<b>2</b>	<b>0</b>
		<b>-</b>	<b>A</b>
			<b>2</b>
	Institution	Study Number	Year
			Status
<i>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation</i>			
<b>Application Type: Single study</b>			
<b>Commencement date: 28/10/2021</b>	<b>Risk:</b>	<b>Low</b>	
<b>Expiry date: 28/10/2022</b>			
<b>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.</b>			

#### Special in process conditions of the research for approval (if applicable):

<p><b>General conditions:</b></p> <p>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:</p> <ul style="list-style-type: none"> <li>The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the ES-REC: <ul style="list-style-type: none"> <li>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</li> <li>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.</li> </ul> </li> <li>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.</li> <li>Annually a number of studies may be randomly selected for an external audit.</li> <li>The date of approval indicates the first date that the study may be started.</li> <li>In the interest of ethical responsibility, the NWU-SCRC and ES-REC reserves the right to: <ul style="list-style-type: none"> <li>request access to any information or data at any time during the course or after completion of the study;</li> </ul> </li> </ul>
---

- 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: (22351930) C:\Users\22351930\Desktop\ETHICS APPROVAL LETTER OF STUDY.docm  
8 November 2018

Current details: (22351930) M:\DSS1\8533\Monitoring and Reporting Cluster\Ethics\Certificates\Templates\Research Ethics Approval Letters\9.1.5.4.1 ES-REC Ethical Approval Letter.docm  
5 December 2018

File reference: 9.1.5.4.2

# ANNEXURE B: DEPARTMENT OF EDUCATION APPROVAL



**education**

**Lefapha la Thuto la Bokone Bophirima  
Noord-Wes Departement van Onderwys  
North West Department of Education  
NORTH WEST PROVINCE**

Garona Building, East Wing,  
Ground Floor, Mmabatho,  
Private Bag X2044, Mmabatho 2735  
Tel.: (018) 388-2114  
Fax.: (018) 388-3430  
e-mail: prasetshwane@nwpg.gov.za

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**DIRECTORATE:  
STRATEGIC PLANNING, MONITORING AND EVALUATION**

---

Enquiries: 018 388 2930

To : Prof. Koen, M.

From : R.G. Ntsime  
Research, Evaluations & Policy Coordination CES (Acting)

Subject : Permission to have Contact Session with respondents

Date : 24.11.2020

The subject above has reference. To this end you have been granted permission to have contact sessions with your respondents compliant to the conditions as stipulated in the approval letter signed by the Head of the Department of Education, North West Province. Observance to the Covid 19 protocols should be upheld.

Working Together.

Ratshikana G. Ntsime

Research, Evaluation & Policy Coordination

# ANNEXURE C: SIGNED CONSENT LETTER AND CONSENT FORM



Private Bag X6001, Potchefstroom  
South Africa 2520

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

**Faculty of Education**  
COMBER Research Focus Area

Tel: 018 285 [redacted]  
Email: [redacted]@[nwu.ac.za](mailto: [redacted]@nwu.ac.za)

**Recipient: ECCE practitioners**

[redacted] School  
[redacted] Street  
Ikageng  
Extension 7  
Tel: 082 [redacted]  
086 [redacted]  
Email: [redacted]@[nwu.ac.za](mailto: [redacted]@nwu.ac.za)

Date: April 2021

## ADAPTED CONSENT LETTER FOR FACE-TO-FACE SESSION PARTICIPANT INFORMATION AND CONSENT FORM (PRACTITIONERS)

I herewith wish to request your consent to participate in this research, which involves a partnership to collaboratively develop educational interventions to enable the provision of quality early childhood education.

Before you give consent, please acquaint yourself with the information below.

The details of the research are as follows:

### TITLE OF THE PHD RESEARCH PROJECT:

Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach

**ETHICS APPLICATION NUMBER: NWU-01207-20-S2**

**PhD Student:** Ms. Benita Taylor  
**SUPERVISOR:** Dr Marinda Neethling  
**CO-SUPERVISOR:** Dr Stef Esterhuizen  
**ADDRESS:** North-West University  
Faculty of Education  
[redacted]

**CONTACT NUMBER:** 018 285 [redacted]

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 asked from the provincial Department of Basic Education as well as the school principal.

For any ethics related queries feel free to contact the Faculty of Education Research Ethics Committee.

**Contact person:** Ms [redacted] Greyling  
**E-mail:** [redacted]@[nwu.ac.za](mailto: [redacted]@nwu.ac.za),  
**Contact number:** (018) 299 [redacted]

### **Protocol if there is a movement towards alert level 1**

To adhere to the principles and the requirements set out by the South African government guidelines the following protocol will be followed:

Our research practice in the Faculty of Education is aligned with the North-West University's Research Ethics Policy and wish to ensure that this research project conducted will be in accordance with national and international ethics standards and statutory requirements.

To adhere to the principles and the requirements set out by the South African government guidelines the following protocol will be followed:

- We will adhere to the governmental and institutional guidelines (<http://www.nwu.ac.za/coronavirus>).
- We will inform the EDU-REC committee about the change in data collection methods due to COVID-19
- We have received a confirmation letter from the Department of Education to conduct face-to-face research during lockdown level 1
- We will follow the guidelines of NWU where we will:
  - form a trusted relationship with the gatekeeper and we will ask her to assist us to reach out to the three potential practitioners.

### **Sites:**

The sites that will be included in the study will consist of formal and informal centres in the Kenneth Kaunda district that resorts under the [REDACTED] Trust a non-profit organisation ([REDACTED] Day Care; [REDACTED] Day Care Centre; [REDACTED] Day Care). The [REDACTED] Trust supports day care centres that care for and educate children in the poorer communities around Potchefstroom ([REDACTED]).

### **Protocol: Face-to-face sessions**

- Researchers **will NOT continue** with face-to-face contact if any of the group members presents with COVID-19 symptoms or was in contact with a person that shows symptoms of COVID 19.

If researchers visit the any of the centres, necessary protocol will be followed:

- Researchers will sign in at the school and the necessary information will be documented to adhere to the protocol followed at these 3 centres.
- Researchers temperatures will be taken when entering a centre.
- Researchers will sanitize before entering a school.
- Social distancing will be adhered to.
- All researchers and participants will wear masks.
- Windows will be open as far as possible.

### **What is this research about?**

This research will focus on the needs of and empowering Early Childhood Education and Care (ECCE) practitioners in the poorer communities around Potchefstroom. The aim of this study is to collaboratively support and equip practitioners with relevant practice including knowledge, skills and values to promote motor development of babies.

### **Participants**

#### **What is expected of the participants?**

The researcher will gather data from the practitioners and when needed, use the data to develop the intervention, present it, evaluate it and refine it. The researcher will visit the centres when possible and convenient for participants at the [REDACTED] Centres. Meetings, online and face-to-face will be negotiated with the participants. We will critically reflect on what is needed to change/improve, not only in the development of the intervention, but also on the participants' attitudes and visions about the motor development of babies.

### **Benefits to the participants**

The direct benefits for the participants will be the implementation of the PALAR research methodology where the aim is to emancipate and empower practitioners and in the following way:

*Emancipate* the practitioners to start thinking of themselves not only as teachers, caregivers or parents but as educators and scholars; *empower* them to do apply knowledge, skills and values in the ECCE context; and *emerge* as being part of the body of knowledge to educate themselves and others in their field. Also that

guidelines will be developed to equip practitioners with knowledge, skills and values on the importance of motor development, with a focus on motor development of babies in formal and informal ECCE centres.

**Risks involved for participants**

Practitioners could feel exposed when discussing teaching methods in the ECCE classrooms.

**Confidentiality and protection of identity**

The research methodology implies a participatory, collaborative research design where participants' input will be valued, and opinions and voices will be treated with respect. Care will be taken to secure a safe and respectful environment where the participants feel they are treated fairly and where participants are free to withdraw at any point.

**Dissemination of findings**

Since PALAR is a process that alternates between action and critical reflection, it will value the relations between the participants. The focus will be on participation and collaboration where the researchers will not be regarded as "outside experts" who conduct an investigation with subjects. We will collaborate on identifying the needs of the ECCE centres in order to compile relevant guidelines on promoting motor development.

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

Yours sincerely

Researcher:

Ms Benita Taylor [REDACTED]

---

**DECLARATION BY PARTICIPANT:**

By signing below, I ..... agree to take part in a research study entitled:

**Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach**

**I declare that:**

- I have read this information and consent form and understand what is expected of me 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 I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the research process before it has finished, if the researcher feels it is in my best interests, or if I do not follow the research procedures, as agreed to.

Signed at (place) \_\_\_\_\_ on (date) \_\_\_\_\_ / \_\_\_\_\_ /20\_\_\_\_\_

\_\_\_\_\_  
**Signature of participant**

\_\_\_\_\_  
**Researcher**

---

**DECLARATION BY PARTICIPANT:**


By signing below,  agree to take part in a research study entitled:

**Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach**

**I declare that:**

- I have read this information and consent form and understand what is expected of me 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 I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the research process before it has finished, if the researcher feels it is in my best interests, or if I do not follow the research procedures, as agreed to.

Signed at (place) Patchefstream on (date) 04 / 10 / 2021

  
\_\_\_\_\_  
Signature of participant

  
\_\_\_\_\_  
Researcher

---

**DECLARATION BY PARTICIPANT:**

By signing below, I [redacted] ..... agree to take part in a research study entitled:

**Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach**

**I declare that:**

- I have read this information and consent form and understand what is expected of me 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 I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the research process before it has finished, if the researcher feels it is in my best interests, or if I do not follow the research procedures, as agreed to.

Signed at (place) Patchefstream on (date) 04 / 10 / 20 21

\_\_\_\_\_  
**Signature of participant**

\_\_\_\_\_  
**Researcher**



# ANNEXURE D: PROTOCOL FOR FACE-TO-FACE RESEARCH IN ECCE CENTRES DURING COVID-19 ALERT LEVEL 1



Mrs B Taylor  
School of Psycho-Social Education  
Tel: 018 285 [REDACTED]  
Email: [REDACTED]@nwu.ac.za  
20/01/2021

## Protocol for face-to-face research in ECCE centres during COVID-19 Alert level 1

### PhD Title:

Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach

NWU Ethics number: NWU-01207-20-S2

This PhD forms part of an **approved research project** as follows:

**Title:** *Early Childhood Care and Education: building partnerships between teachers, caregivers and parents for the holistic development of young children*

NWU Ethics number: NWU-01615-19-A2 (Expiry date: 30/7/2021 adapted to 28/10/2022)

### Project team:

Prof M Koen (emotional and social well-being)  
Ms B Taylor (physical development) (**PhD student**)  
Dr M Neethling (cognitive development),  
Dr Stef Esterhuizen (play-based approach)  
Gatekeeper: Director [REDACTED] Trust

Research is done in three [REDACTED] Early Childhood Development Centres for the approved project as mentioned above, as well as the approved PhD study of Mrs B Taylor.

Our research practice in the Faculty of Education is aligned with the [REDACTED] University's Research Ethics Policy and wish to ensure that our research project will be conducted in accordance with national standards and statutory requirement.

- We once again received permission from the Department of Education to conduct face-to-face research on lock-down level 1 (This includes the relevant PhD study).
- Data will be gathered online where and as far as possible.

### Online platform discussions

- In order to determine possible non-verbal cues, video contact will be made with participants by means of Zoom to facilitate interaction.
- All Zoom meetings will be recorded and transcribed

- These recorded discussions and transcriptions will be stored in various secured platforms, with protected codes and deleted from all online platforms.
- Online questionnaires will be used, where necessary, to follow up on the Zoom meetings to bring depth to the discussions.
- WiFi is available to all participants at the [REDACTED] Trust, where the gatekeeper is situated.
- The gatekeeper can also assist with technological difficulties
- Communication with the gatekeeper and the participants will take place via WhatsApp, telephone calls, email and Zoom meetings if necessary.
- The gatekeeper will communicate with the three participants as far as possible
- Face-to-face contact will be limited as far as possible but is needed to successfully complete this PhD study.
- Informed consent has already been given by all participants.
- The gatekeeper will be present when the forms are signed by the practitioners and the researchers will be present via zoom. The informed consent document will explain this clearly. The signed document will be scanned and e-mailed to the researchers to keep as a record. The original documents will be kept by the gatekeeper till the first face-to-face session can take place according to COVID-19 regulations.

#### Face-to-face sessions

- Researchers will NOT continue with face-to-face contact if any of the group members presents with COVID-19 symptoms or was in contact with a person that shows symptoms of COVID 19.

If researchers visit the centres, necessary protocol will be followed:

- Researchers will sign in at the centre and the necessary information will be documented to adhere to the protocol followed at these 3 centres ([REDACTED] Day Care; [REDACTED] Day Care Centre; [REDACTED] Day Care.)
- Researchers' temperatures will be taken when entering a centre.
- Researchers will sanitize before entering a school.
- Social distancing will be adhered to.
- All researchers and participants will wear masks.
- Windows will be open as far as possible.

Supervisors and student signatures



M NEETHLING (Supervisor)



S ESTERHUIZEN (Co-Supervisor)



B TAYLOR (PhD-student)

# ANNEXURE E: ADAPTED APPLICATION FOR FACE-TO-FACE SESSIONS ON ALERT LEVEL 1

***This is an adapted application to conduct face-to-face sessions should South Africa show a low virus spread and high level of health readiness and there is a movement towards Alert level 1.***

## **1. PhD Title:**

Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach

NWU Ethics number: NWU-01207-20-S2

This PhD forms part of an **approved research project** as follows:

**Title:** *Early Childhood Care and Education: building partnerships between teachers, caregivers and parents for the holistic development of young children.*

### **Project team:**

Prof M Koen (Emotional and Social well-being)  
Dr M Neethling (Cognitive development),  
Ms B Taylor (Physical development) (PhD student)  
Dr Stef Esterhuizen (Play-based approach)  
Gatekeeper: Ms Marileen Theron

NWU Ethics number: NWU-01615-19-A2 (Expiry date: 30/7/2021)

## **2. We have permission to conduct online sessions**

Permission were granted for online sessions in 2020. Online sessions will still be conducted as far as possible, but if SA shows a low virus spread and high level of health readiness and there is a movement towards Alert level 1, we would like to apply for face-to-face sessions.

## **3. Application to conduct face-to-face sessions if there is a movement towards alert level 1**

Our research practice in the Faculty of Education is aligned with the North-West University's Research Ethics Policy and wish to ensure that this research project conducted will be in accordance with national and international ethics standards and statutory requirements.

To adhere to the principles and the requirements set out by the South African government guidelines the following protocol will be followed:

- We will adhere to the governmental and institutional guidelines (<http://www.nwu.ac.za/coronavirus>).
- We will inform the EDU-REC committee about the change in data collection methods due to COVID-19
- We have received a confirmation letter from the Department of Education to conduct face-to-face research during lockdown level 1
- We will follow the guidelines of NWU where we will:
  - form a trusted relationship with the gatekeeper and we will ask her to assist us to reach out to the three potential teachers and three parents.

### **Sites:**

The sites that will be included in the study will consist of formal and informal centres in the Kenneth Kaunda district under the [REDACTED] ([REDACTED] Day Care; [REDACTED] Day Care Centre; [REDACTED] Day Care). The [REDACTED] Trust supports day care centres that care for and educate children in the poorer communities around Potchefstroom ([REDACTED]).

The researcher **will NOT continue** with face-to-face contact if any of the group members presents with COVID-19 symptoms or was in contact with a person that shows symptoms of COVID-19.

If and when the researcher visit any of the centres, necessary protocol will be followed:

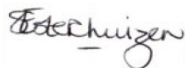
- Researchers will sign in at the school and the necessary information will be documented to adhere to the protocol followed at these 3 centres.
- Researchers temperatures will be taken when entering a centre.
- Researchers will sanitize before entering a school.
- Social distancing will be adhered to.
- All researchers and participants will wear masks.
- Windows will be open as far as possible.

Supervisors and student signatures



---

M NEETHLING (Supervisor)



---

S ESTERHUIZEN (Co-Supervisor)



---

B TAYLOR (PhD-student)

**DATE:** 2021-01-20

# ANNEXURE F: WHATSAPP GROUP – POPIA COMPLIANCE

## WhatsApp Group – POPIA compliance message posted

Message: Good afternoon everyone:

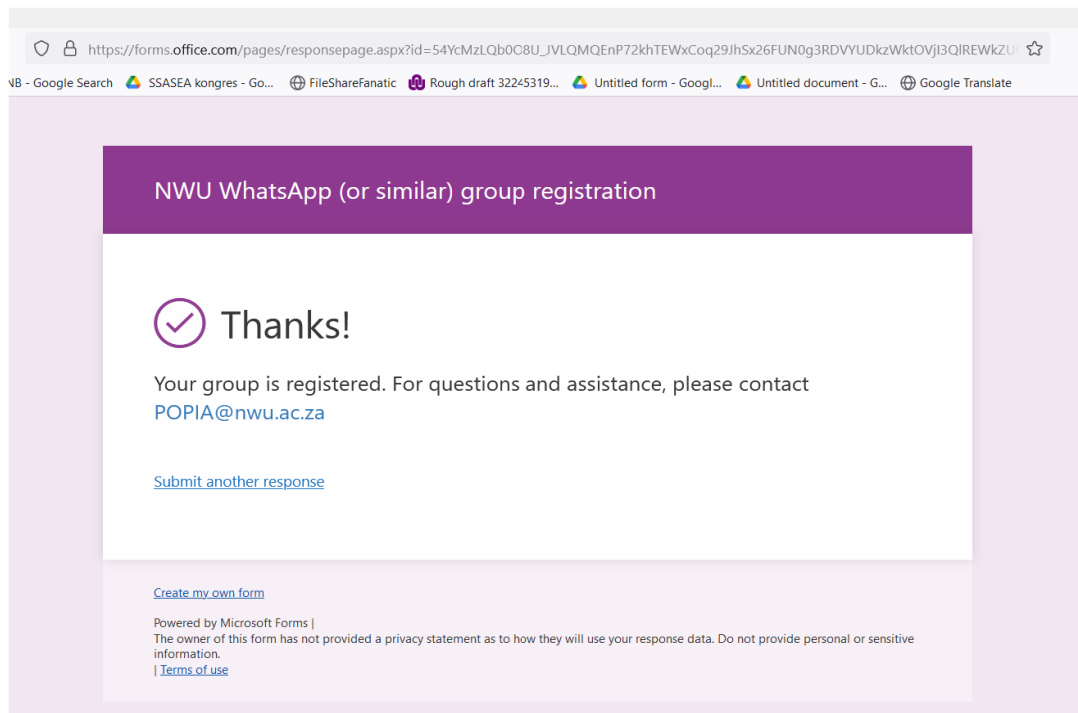
As you might already have noticed on similar groups, we also need to share a POPIA disclaimer, as all WhatsApp groups need to adhere to the Act from 1 July 2021.

The compliance due date for the Protection of Personal Information Act, 4 of 2013 (“POPIA”), being 30 June 2021, brings a few changes. One of these changes is that the administrators are required to obtain your consent for being part of this WhatsApp group. As such, you are herewith notified that you are entitled to refuse such consent and you may exercise such a right by leaving this group.

Should you elect to remain in this group (which we hope you will do), it will be accepted that you have consented to being a part of this group and to your personal information (being your cell phone number and name) being noticeable to any person in this group.

In this regard, we caution all members of this group not to make use of such personal information for whatsoever reason, without obtaining the consent of the relevant person.

Furthermore, this WhatsApp group had to be registered on the NWU data base.



The screenshot shows a web browser window with the URL [https://forms.office.com/pages/responsepage.aspx?id=54YcMzLQb0C8U\\_JVLQMqEnP72khTEWxCoq29JhSx26FUN0g3RDVYUDkzWktOVjB3QIREWKZU](https://forms.office.com/pages/responsepage.aspx?id=54YcMzLQb0C8U_JVLQMqEnP72khTEWxCoq29JhSx26FUN0g3RDVYUDkzWktOVjB3QIREWKZU). The browser tabs include Google Search, SSASEA kongres - Go..., FileShareFanic, Rough draft 32245319..., Untitled form - Googl..., Untitled document - G..., and Google Translate. The main content area has a purple header with the text "NWU WhatsApp (or similar) group registration". Below the header, there is a large white box with a purple checkmark icon and the text "Thanks!". Underneath, it says "Your group is registered. For questions and assistance, please contact [POPIA@nwu.ac.za](mailto:POPIA@nwu.ac.za)". There is a link "Submit another response" below that. At the bottom of the white box, there is a link "Create my own form". Below the white box, there is a footer that says "Powered by Microsoft Forms | The owner of this form has not provided a privacy statement as to how they will use your response data. Do not provide personal or sensitive information. | [Terms of use](#)".

Message that was posted on the group during data-generation: Dear group member. The NWU is committed to protecting personal information/data. For this purpose, the NWU adopted a Privacy statement as well as a Personal Information Privacy Policy, which establish the rules for the NWU when dealing with personal information. As part of this NWU community, please take note of the purposes of this specific group as follows:

This group will be used to keep you informed on matters relating to your connection with the NWU, for commercial purposes and for effective and efficient Communication. To be able to manage groups like these the NWU adopted Rules and guidelines for the use of Whatsapp groups.

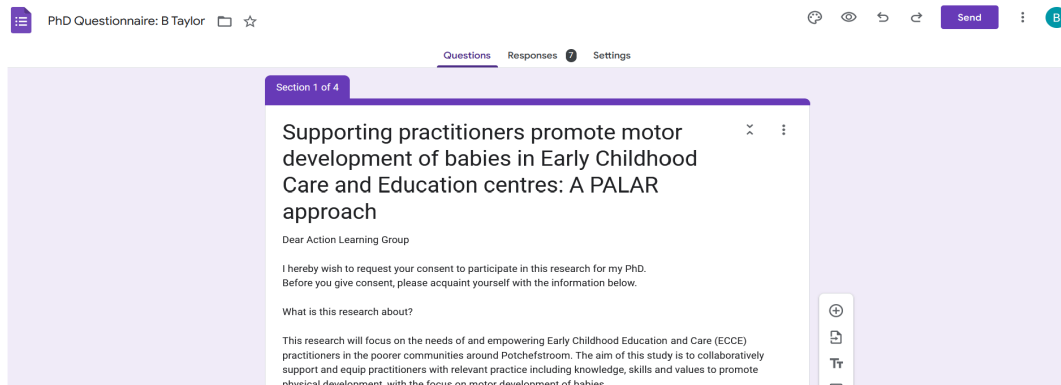
Due to the POPIA act we have to protect all personal information of the participants and therefore we also blank the names of participants as well as the centres.

# ANNEXURE G: ONLINE QUESTIONNAIRES

\*\*\*\*Please note that the google links to the online questionnaires will not be made available here due to the Protection of Personal Information Act, 4 of 2013 (“POPIA”). Furthermore, no names or personal information will be made available in this study in order to protect the participants and participating ECCE centres.

## First online questionnaire

Screen shot taken from the original online questionnaire



The following are the entire questionnaire copied to this document:

### **Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach**

Dear Action Learning Group

I hereby wish to request your consent to participate in this research for my PhD study. Before you give consent, please acquaint yourself with the information below.

What is this research about?

This research will focus on the needs of and empowering Early Childhood Education and Care (ECCE) practitioners in the poorer communities around Potchefstroom. The aim of this study is to collaboratively support and equip practitioners with relevant practice including knowledge, skills and values to promote physical development, with the focus on motor development of babies.

What is expected of the participants?

The participants will collaboratively gather data to develop the intervention, present it, evaluate it and refine it. The centres will be visited when convenient for the relevant participants at the relevant centre. Meetings, online and face-to-face will be negotiated with the participants. We will critically reflect on what is needed to change/improve, not only in the development of the intervention, but also on the participants' attitudes and visions about the physical development with the focus on motor development of babies. Participants will be requested to complete this online form in the convenience of your own home and in your own time.

Benefits to the participants

The direct benefits for the participants will be the implementation of the participatory action Learning

and action research (PALAR) methodology where the aim is to empower practitioners and in the following way:

To guide the practitioners to start thinking of themselves not only as practitioners, caregivers or parents but as educators and scholars; empower them to do apply knowledge, skills and values in the ECCE context; and emerge as being part of the body of knowledge to educate themselves and others in their field. Also that guidelines will be developed to equip practitioners with knowledge, skills and values on the importance of physical development, with the focus on motor development of babies in formal and informal ECCE centres

Risks involved for participants

Practitioners could feel exposed when discussing teaching methods in the ECCE classrooms/playrooms.

Confidentiality and protection of identity

The research methodology implies a participatory, collaborative research design where participants' input will be valued, and opinions and voices will be treated with respect. Care will be taken to secure a safe and respectful environment where the participants feel they are treated fairly and where participants are free to withdraw at any point.

Dissemination of findings

Since PALAR is a process that alternates between action and critical reflection, it will value the relations between the participants. The focus will be on participation and collaboration where the researchers will not be regarded as "outside experts" who conduct an investigation with subjects. We will collaborate on identifying the needs of the ECCE centres in order to compile guidelines that the practitioners will be able to use daily in the centres.

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

Yours sincerely

Researcher:

Mrs Benita Taylor (  )

If the boxes underneath are not ticked, you will not be able to proceed with the questionnaire. By clicking the boxes below, I declare that I am fully informed about the purpose of the questionnaire, and I give consent that:

- X      The data of this research may be used for research purposes without identifying me as an individual;
- X      I voluntarily agree to take part in the research;
- X      I am aware that I can withdraw from the research at any time.

#### **Section A**

1.      Participant name
2.      ECD Centre you are currently working at
3.      Gender
4.      Age
5.      Shortly explain how many years experience do you have with babies.
6.      Do you have a ECD/ECCE qualification/ certificates. If yes indicate which qualification it is and where you completed the qualification.

- 6.1 Indicate when you finished the qualification and/or if you are still busy with it.
- 6.2 At which institution did you complete this qualification? Is this an NPO or University?
- 6.3 What NQF level is this qualification on?
7. Home Language
8. Second Language
9. Third language
10. Teaching language

### **Section B**

11. In your own words describe what physical development for babies are
12. In your own words describe what gross motor development means
13. In your own words describe what fine motor development means
14. Why do you think it is important for babies to develop fine motor skills?
15. Why do you think it is important for babies to develop big motor skills?
16. Would you like to learn more about fine- and gross motor development activities for babies. If the answer is yes please explain why you said yes.
17. What are the challenges that you experience with motor development of babies at your centre?

Thank you for taking the time to participate in this research

### **Second online questionnaire**

#### **Supporting practitioners to promote the motor development of babies in Early Childhood Care and Education centres: a PALAR approach**

1. How many practitioners are at your Centre?
2. How many practitioners work with the babies at your Centre?
3. How many children do you have in your centre?
4. How many babies do you have in your centre?
5. How many years' experience do you have in ECCE centre?
6. What qualification do you have?

## ANNEXURE H: TITLE APPROVAL

 <p><b>NWU</b> NORTH WEST UNIVERSITY NOORD-OWES UNIVERSITEIT TUNEDITH O BOWWIS-BOH HAW</p>	<p>Privaatsak X6001, Potchefstroom Suid-Afrika, 2520</p> <p>Tel: (018) 299-1111/2222 Web: <a href="http://www.nwu.ac.za">http://www.nwu.ac.za</a></p> <p>Hoërgrade Administrasie</p> <p>Tel: 0182992294 E-pos: <a href="mailto:31990002@nwu.ac.za">31990002@nwu.ac.za</a> Navrae: MNR L RAPHESO</p> <p>5 Mei 2022</p>
<p>Geagle MEV TAYLOR Universiteitsnommer: 13096513</p>	
<p><b>GEREGISTREERDE TITEL</b></p>	
<p>Tydens die onlangse tersaaklike komiteevergadering van die NWU Fakulteit Opvoedingswetenskappe is u titel soos volg goedgekeur:</p>	
<p><b>Supporting practitioners to promote motor development of babies in Early Childhood Care and Education centres: A PALAR approach</b></p>	
<p>Bogenoemde titel mag onder geen omstandighede verander word sonder ooreenstemming met u studieleier en goedkeuring van die betrokke komitee in die genoemde fakulteit nie – in welke geval hierdie kantoor van die nuutste goedgekeurde titel voorsien moet word.</p>	
<p>Indien u wil indien met die oog op eksaminering, stel asseblief u studieleier/promotor daarvan in kennis. Maak ook seker dat u hou by die voorskrifte van A-reël 4.10 in die geval van 'n meestersgraadstudie en A-reël 5.10 in die geval van 'n doktorsale proefskrif.</p>	
<p>Ná goedkeuring van u studieleier/promotor, maak asseblief seker dat die Kennisgewing van Indiening- DRIE maande voor die tyd by hierdie kantoor ingedien word.</p>	
<p>Neem kennis dat die Kennisgewing van Indiening beskikbaar is op die <a href="#">NWU DRY portaal</a></p>	
<p>Vir maklike verwysing, hiermee 'n verwysing na die volgende nuttige hulpbronne:</p> <ul style="list-style-type: none"><li>• <a href="#">Algemene Akademiese Rieëls (A-reëls);</a></li><li>• <a href="#">Handleiding vir Hoërgrade Studies;</a></li><li>• <a href="#">Beleid oor akademiese integriteit;</a></li></ul>	
<p>Ons wens u alles van die beste toe vir u studies.</p>	
<p>Vriendelike groete</p>	
<p>Registrateur</p>	 <p><b>NWU</b> NORTH WEST UNIVERSITY NOORD-OWES UNIVERSITEIT TUNEDITH O BOWWIS-BOH HAW</p> <p>2022/05/05</p>
<p>Verwysingsnommer: 7.1.11.1.2</p>	

## **ANNEXURE I: EDUCATIONAL INTERVENTION (EI)**

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## ANNEXURE J: PROOF OF EDITING

### *PROOF OF EDITING*

Dr. L. Hoffman, APed (SATI), APRed (SAVI)

Klerksdorp

BA, BA(Hons), MA, DLitt et Phil, Certificate (English Grammar for Editors)

Accredited Professional Text Editor – English and Afrikaans (South African Translators' Institute)

Member of South African Translators' Institute – No. 1003545

Cell no: 079 193 5256

Email: larizahoffman@gmail.com

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### DECLARATION

To whom it may concern

I hereby confirm that I have proofread and edited the following thesis, including the bibliography.

#### **Title of thesis**

Supporting practitioners to promote motor development of babies in  
Early Childhood Care and Education centres: A PALAR approach

#### **Student**

B. Taylor



Lariza Hoffman

Klerksdorp

23 November 2022

## ANNEXURE K: TURN IT IN REPORT

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*by* CORLIA TWINE

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