

**Efficacy of Zulu indigenous games in enhancing perceptual-motor skills in pre-schoolers: A qualitative *study of two informal* settlements in Kwa Zulu Natal**



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## Declaration

I understand the concept of plagiarism and hereby affirm that all content within the dissertation, apart from duly acknowledged contributions, is solely written by myself.

I used Grammarly to assist in the grammar and language editing process.

My mother, Ena Sims, a retired Principal, read and re-read every chapter, helping me with my grammar and language.

Signed by candidate

Nicolette Brand

## **Dedication**

This dissertation is dedicated to my late husband, Andre, who always saw potential in me, even when I couldn't see it in myself. This achievement was our shared dream. I hope you are looking down at me, proud of what I have accomplished.

To my son Luc, I am profoundly grateful for your love, support, and understanding throughout this journey. Although there were times when it consumed all my time, you remained patient and supportive.

Moreover, to my parents, thank you for your unending love and support. Words cannot describe how deeply grateful I am."

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Without God's Grace, this dissertation would not have been completed. He guided me, held me safe in his hands while I endured a life-changing event, and helped me regain the courage to pursue my dreams regardless of the circumstances.

*Jasiah 10 verse 41: "Do not fear, for I am with you; do not be dismayed, for I am your God. I will strengthen and help you; I will uphold you with my righteous right hand."*

Thank you to the following individuals:

- My late husband, Andre Brand, believed in me wholeheartedly and helped me see my potential. You encouraged me to continue even after your passing.
- My son Luc, you are my world and heart – Thank you.
- My parents for your love, encouragement and support.
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## **Abstract**

An increasing number of learners entering formal schooling lack essential learning readiness skills, such as perceptual-motor development, and are therefore underprepared for learning. Although indigenous games have the potential to enhance perceptual-motor development, there is a paucity of research on the use of indigenous games for school readiness among Grade R learners. This study evaluates cognitive and perceptual-motor skills in Zulu indigenous games, drawing on Vygotsky's Sociocultural Theory, Piaget's Cognitive Development Theory, and Bronfenbrenner's Ecological Systems Theory, to enhance the school readiness of Grade R learners in a resource-constrained context. Data was collected using a qualitative methodology and analysed within the interpretive paradigm, incorporating interviews, observations, and field notes. The study employed structured and semi-structured interviews to investigate the educational characteristics of Zulu Indigenous games from the community's perspective and adults' perceptions of their benefits for holistic development. Participants aged twenty to thirty from two regions recognised the beneficial effects of Zulu Indigenous games on physical, cognitive, and social abilities.

However, they indicated that demanding work schedules, particularly in corporate environments in Durban, limited their participation in traditional games. Participants reported primarily using English at work and leisure, influencing their cultural practices. Despite these challenges, there is hope that incorporating traditional games into school curricula will preserve cultural heritage for future generations. Concerns about adequate teacher training were expressed, particularly among younger educators unfamiliar with these games. Physical and group interactions, skill development, cultural history, and group dynamics emerged as key themes, emphasising the multifaceted benefits of Zulu Indigenous games in promoting community bonds, personal growth, and cultural preservation. The research concludes that incorporating Zulu indigenous games with educational value from Zulu culture into the school curriculum can be extremely beneficial for addressing the impact of delayed perceptual motor development on school readiness and promoting holistic child development. By incorporating Zulu indigenous games into the curriculum, schools can

simultaneously promote cultural inclusivity, respect, and appreciation while fostering the perceptual-motor development of children.

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# Chapter 1

## 1.1. Introduction

In a child's life, the first five years are crucial for rapid growth and development, encompassing physical and cognitive abilities that lay the foundation for future learning and socioemotional skills (Butchon & Liabsuetrakul, 2017; Grantham-McGregor et al., 2007; Amani & Poustinch, 2019). As a foundation phase teacher, I have witnessed an increasing number of learners entering formal schooling without the necessary skills to ensure their readiness for learning. This trend has resulted in a rise in learning barriers, particularly in socioeconomically disadvantaged areas, where the availability of occupational therapists (OTs) is limited compared to urban schools. OTs specialise in helping children overcome these barriers.

In South Africa (Erasmus, 2012; Pienaar & Kemp, 2014), studies were conducted in formerly disadvantaged areas to assess and document the deficiencies in perceptual-motor development among Grade R learners. These studies raised significant concerns regarding the school readiness programs implemented in Grade R classes. They concluded that these deficiencies put a large percentage of school beginners at risk for developmental problems associated with inadequate perceptual-motor skills. Consequently, addressing these issues, especially during the preschool and early foundation phases, becomes crucial.

According to Ozyurek (2015), as cited in Çayir (2017), reading skills in early childhood education depend on children's perceptual-motor development. Additionally, Swenson (2019) states in her literature that handwriting is a skill that requires perceptual-motor, sensory, intellectual, and language abilities (Maldarelli et al., 2015), as cited in Swenson (2019). Drawing from these studies, correlations between perceptual-motor development, reading, and handwriting can be established. Furthermore, (Ayres & Robbins, 2005, p. 25), as cited in van Zyl (2004), along with McCandliss et al. (2003) and LaBerge and Samuels (1974), argue that a clear relationship exists between visual perception abilities, academic achievement, and reading ability. Gordon et al. (2011) further state that these perceptual-motor barriers directly affect a child's ability to acquire reading and writing skills (Gordon & Browne, 2011).

This study aims to evaluate the effectiveness of Zulu indigenous games (IG) as an intervention for perceptual-motor development, aiming to enhance the school readiness of Grade R learners in a resource-constrained context. The educational aspects of Zulu indigenous games will be examined through the lens of Piaget's Cognitive Development Theory, which defines child development as a cognitive process occurring in stages that build upon one another, and Lev Vygotsky's (1978) Cognitive Development Theory, which emphasises that a child's social interactions influence cognitive development.

## **1.2. Context and Rationale**

My experience working with young children has highlighted the significance of addressing these issues. While urban schools can afford to have occupational therapists (OTs), Occupational Therapists have been trained to identify and address obstacles in learning, which are difficulties learners face in comprehending and making sense of sensory information (AOTA, 2017). Their extensive training equips them to develop interventions that bridge the gap between experiences and cognitive processes (Case et al., 2010).

One of the reasons why OTs are essential for learners with perceptual barriers is their expertise in providing sensory integration therapy. This type of therapy aims to assist children in processing information effectively, enhancing their learning abilities and interaction with their surroundings (Ayres, 2005). Moreover, learners experiencing learning challenges often encounter difficulties performing tasks that many people take for granted. OTs support these learners in acquiring strategies and skills to independently carry out these activities, boosting their self-confidence and enabling participation in school-related activities (Fisher et al., 1991). Furthermore, OTs collaborate closely with teachers, parents and other stakeholders. They offer insights and strategies to incorporate into a learner plan to ensure an environment conducive to their unique learning style (Case et al., 2010).

Occupational therapists' knowledge and skills are essential in providing students with learning challenges and the opportunity to excel academically and socially. In this context, Zulu indigenous games may offer a potential solution for pre-schoolers to overcome these barriers.

Educational apps that places emphasis on perceptual-motor skills can assist learners in their perceptual development. For example, Shrewsbury Public Schools in Massachusetts promote

evidence-based apps focusing on specific developmental abilities such as writing and visual perception. Writing applications, for instance, teach letter formation engagingly, and using a stylus is recommended to facilitate the transition to pencil-and-paper skills and promote the development of a mature pencil grip. Visual perception apps also concentrate on skills like object discrimination and identifying objects concealed within complex backgrounds (Shrewsbury Public Schools - Empowering Learners, no date).

According to another scholar, Lee et al. (2018), occupational therapists employ mobile apps to help children develop gross and fine motor, cause-effect, organisational, sequencing, handwriting, and visual perceptual skills. However, it is essential to note that these apps often reflect Western cultures. Therefore, incorporating Zulu indigenous games, contextual terms, and visuals into the design of apps could allow learners to connect their environment and education, thereby fostering meaningful learning (Nkopodi & Mosimege, 2009). Constructivists argue that learning is most effective when the activity and context are meaningful (Veletsianos, 2016). Considering that apps can be designed based on children's heritage and culture, it is plausible to suggest that incorporating their cultural background could enhance the meaning and authenticity of the learning experience.

By integrating Zulu Indigenous games and cultural elements into educational apps, we can provide learners with a more inclusive and relevant learning experience that aligns with their heritage, fostering a stronger connection between their education and their environment.

### **1.3. Theoretical and Conceptual Frameworks**

According to Jabareen (2009), a conceptual framework is more than a collection of concepts; it is a structured framework in which each notion plays a crucial function. Zulu Indigenous games, perceptual-motor development, school readiness, and learning barriers are the central concepts of this study, with each concept being critical in determining which Zulu Indigenous games may potentially enhance pre-schoolers' perceptual-motor development and assist them in their readiness to learn. Furthermore, research suggests that delays in perceptual-motor development can affect reading and handwriting abilities, leading to learning barriers.

Regarding cognitive development theories, Piaget's Cognitive Development Theory (1936) and Vygotsky's Cognitive Development Theory (1978) provide relevant frameworks. Piaget's theory describes stages of cognitive development, such as sensorimotor development that involves eye-hand coordination and object recognition, while the preoperational stage signifies language growth and symbolic thought (Ojose, 2008). Vygotsky's theory emphasises the social and cultural aspects of cognitive development, highlighting the influence of culture on talents like learning, memory, attention, and problem-solving. It is suggested that culturally specialised tools significantly contribute to children's perception and structuring of the world (Moore, 2011). Combining these frameworks offers a lens through which to evaluate cognitive and perceptual-motor skills concerning the social construct of Zulu indigenous games.

Vygotsky's sociocultural theory and Bronfenbrenner's ecological systems theory are interrelated and complementary frameworks that provide a comprehensive understanding of human development.

Vygotsky's sociocultural theory (1978) emphasises the role of social interactions, cultural tools, and the sociocultural context in shaping cognitive development. Vygotsky proposed the concept of the zone of proximal development (ZPD), which refers to the range of tasks that a child can perform with the guidance and support of a more knowledgeable adult. This social interaction and scaffolding provided by adults or peers within the child's immediate environment are crucial for cognitive growth and learning (Vygotsky, 1978).

Bronfenbrenner's ecological systems theory expands on Vygotsky's ideas by highlighting the interplay between individuals and their environment across multiple systems. The theory emphasises the influence of various environmental systems, such as the immediate family, school, community, and broader cultural and societal values, on human development. Bronfenbrenner's theory recognises that development is shaped by reciprocal interactions between individuals and their environmental contexts, with each system influencing and being influenced by others (Bronfenbrenner, 1979).

The interrelatedness of these theories lies in their focus on the social and environmental factors that shape human development. Vygotsky's theory highlights the importance of social interactions and cultural tools within the immediate social context (Malobola-Ndlovu, 2018). In

contrast, Bronfenbrenner's theory focuses on the broader ecological systems surrounding the individual. Together, they comprehensively understand the complex interactions between individuals and their social environments in shaping cognitive, social, and emotional development.

### Conceptual Framework of this study

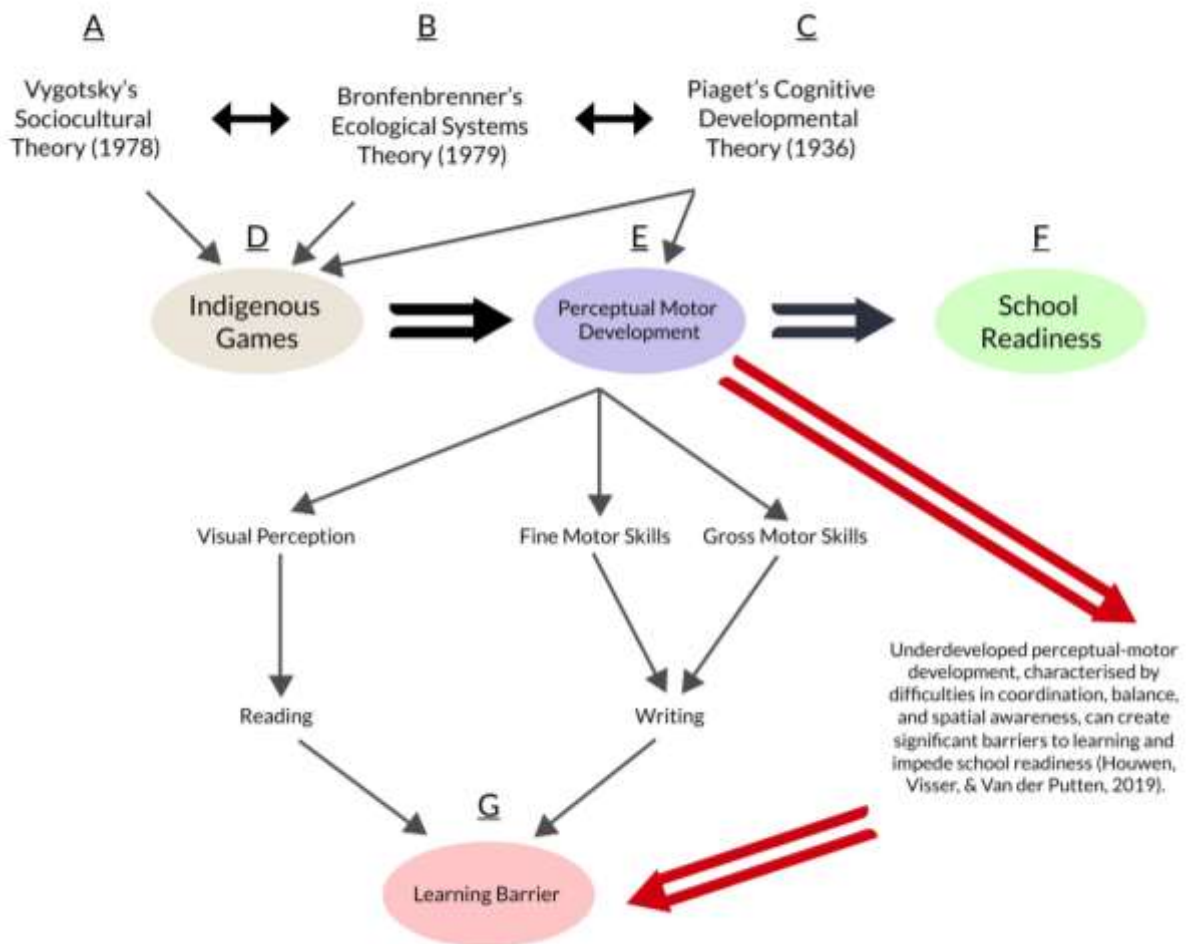


Figure 1. Conceptual Framework of this study

### 1.4. Problem Statement

The increasing number of learners entering formal schooling without essential learning readiness skills, such as perceptual-motor development, is a concerning trend observed by foundation phase teachers (Çayir, 2017; Swenson, 2019). While urban schools often have access to occupational therapists (OTs) to address these barriers, schools in socioeconomically disadvantaged areas lack the necessary resources.

Scholars like Erasmus (2012) and Pienaar and Kemp (2014) have studied formerly disadvantaged areas, revealing deficiencies in perceptual-motor development among Grade R learners. These studies raise concerns about the effectiveness of school readiness programs in Grade R classes and the increased risk of developmental problems associated with inadequate perceptual-motor skills. Consequently, it is crucial to address these issues, especially during the preschool and foundation phases.

To ensure equal opportunities for success, it is vital to support and enhance the perceptual-motor development of learners in socioeconomically disadvantaged areas. This can be achieved through interventions and programs integrated into the school curriculum. Collaboration between educators, parents, and community stakeholders is essential to creating a supportive environment that recognises and addresses learners' developmental needs.

By acknowledging the challenges learners face in these areas and working collectively to address perceptual-motor deficiencies, we can strive for a more equitable education system that empowers every child to thrive academically and reach their full potential.

## **1.5. Statement and Aims**

Numerous children, particularly those originating from socioeconomically disadvantaged backgrounds, encounter obstacles in effectively connecting their classroom education with their daily experiences, a vital aspect of acquiring meaningful knowledge (Nkopodi & Mosimege, 2009; Malobola-Ndlovu, 2018). Given the importance of addressing perceptual-motor delays through evidence-based practice, I propose integrating traditional games into the school curriculum as part of the Life Skills component. Each game's educational value can be identified and paired with the relevant perceptual motor skills to develop specific developmental areas. Studies have shown that incorporating play into education enhances cognitive development, social skills, and physical health. By doing so, learners will enhance these motor skills and foster a love for these games. This approach helps preserve cultural heritage and ensures these games are not lost due to Western influences, promoting a diverse and inclusive learning environment.

## **1.6. Research Questions**

### **1.6.1. Main Research Question**

- 1.6.1.1. What is the efficacy of Zulu indigenous games in enhancing the perceptual-motor development of pre-schoolers?

### **1.6.2. Secondary Questions**

- 1.6.2.1. How does perceptual-motor development enable school readiness?
- 1.6.2.2. How does the community view the educational value of Zulu indigenous games?
- 1.6.2.3. How can the educational value of Zulu indigenous games be leveraged to overcome barriers to learning?
- 1.6.2.4. Why are Zulu indigenous games considered an integral part of cultural heritage?
- 1.6.2.5. What type of indigenous game can enhance reading and writing skills?

## **1.7. Definition of Key Terms**

### **1.7.1. Early Childhood Development**

Early childhood development is a crucial period encompassing children's physical, cognitive, social, and emotional growth from birth to approximately eight years of age. It lays the foundation for their overall well-being and future outcomes. Berk (2018) emphasises the significance of genetic factors, environmental influences, nutrition, caregiving practices, and access to educational opportunities in shaping early childhood development. The theories of Piaget (1952), Vygotsky (1978), and Erikson (1950) provide valuable insights into the cognitive, social, and emotional processes that occur during this period. Understanding and promoting optimal early childhood development can have long-lasting positive effects on children's lives.

### **1.7.2. Perceptual-motor Skills**

Perceptual-motor development is the progressive integration of sensory and motor systems that enables children to interact effectively with their environment. It involves coordinating

sensory input, such as vision and proprioception, with motor responses, allowing children to engage in reaching, grasping, and locomotion. According to Adolph and Berger (2018), perceptual-motor development involves refining perceptual abilities, mastering increasingly complex motor skills, and adapting factors like maturation, experience, and environmental opportunities for exploration and practice that all impact the development of perceptual-motor skills. Opportunities for exploration and practice. Enhancing perceptual-motor development in early childhood is vital as it supports children's overall physical, cognitive, and social development.

### **1.7.3. Learning Barriers**

Learning barriers refer to factors that hinder or impede a child's ability to acquire new knowledge and skills. These barriers can arise from various sources, including individual, environmental, and systemic factors. Individual factors may include learning disabilities, cognitive limitations, or difficulties with attention and concentration. Environmental factors encompass inadequate access to quality education, low socioeconomic status, limited resources, or a lack of supportive learning environments. Systemic factors involve educational policies, curriculum limitations, and societal biases. Research by UNESCO (2017) highlights the importance of identifying and addressing these barriers to ensure inclusive and equitable education for all children. By understanding and mitigating learning barriers, we can promote optimal learning outcomes and foster the development of every child's potential.

### **1.7.4. School Readiness**

School readiness refers to a child's preparedness to engage in formal education and effectively navigate the school environment. It encompasses a range of developmental domains, including cognitive, social, emotional, and physical skills necessary for academic success. Research by Blair and Raver (2015) emphasises the importance of early language and literacy skills, self-regulation, attention, and social competence in determining school readiness. Factors such as access to quality early childhood education, supportive home environments, and positive parent-child interactions are crucial in promoting school readiness. By focusing on comprehensive early childhood interventions and addressing gaps in development, educators

and policymakers can enhance school readiness and foster positive educational outcomes for children.

### **1.7.5. Zulu Indigenous games**

Zulu indigenous games are traditional and culturally significant forms of play and physical activities practised by members of the communities. These games hold deep historical, social, and spiritual meanings, reflecting indigenous peoples' values, traditions, and ways of life. They often involve skill, teamwork, and physical fitness while promoting cultural preservation and identity. Research by La Fleur and Hultgren (2018) highlights the importance of Zulu Indigenous games in promoting physical activity, social cohesion, and overall well-being within Indigenous communities. They provide a platform for intergenerational knowledge transfer, fostering cultural pride and resilience. Recognising and promoting Zulu indigenous games not only supports cultural revitalisation but also promotes inclusivity and respect for indigenous cultures and traditions.

## **1.8. Structure of Dissertation**

This dissertation includes the following:

Chapter 1: The background of this research study, aims, key concepts, research design and research approaches.

Chapter 2: A comprehensive literature review on perceptual-motor skills in early childhood development and Zulu cultural indigenous games.

Chapter 3: Data collection method, research design, and analysis methods.

Chapter 4: Questions and answers will be presented, and themes emerged from discussions and answers.

Chapter 5: Will comprise a more in-depth discussion of the results derived from the interview process and answers.

Chapter 6: This chapter will answer the research questions by referring to the findings and literature and proposing recommendations for future research.

## **1.9. Conclusion**

Chapter two presents a thorough literature review exploring the connection between early perceptual-motor development in children and its impact on school readiness and subsequent academic success. The review investigates various theoretical frameworks, including Vygotsky's Sociocultural Theory (1978), Piaget's Cognitive Development Theory (1936), and Bronfenbrenner's Ecological Systems Theory (1979), to elucidate how these perspectives enhance our understanding of perceptual-motor development in young children.

The literature review will focus on the specific effects of perceptual-motor development on school readiness and academic achievement. It will examine studies and research that emphasise the significance of early perceptual-motor skills in relation to later educational outcomes, including gross and fine motor skills, visual-motor integration, and coordination.

Furthermore, this chapter will analyse Zulu cultural indigenous games within the frameworks of Vygotsky's Sociocultural Theory, Piaget's Cognitive Development Theory, and Bronfenbrenner's Ecological Systems Theory. By scrutinizing these games through the lens of these theories, the study aims to identify educational components within Zulu indigenous games that can bolster young children's perceptual-motor development.

This chapter seeks to enrich our understanding of the role that perceptual-motor development plays in children's school readiness and academic success by synthesising and evaluating the existing literature and theoretical frameworks. Additionally, it aims to explore the cultural

context and educational elements present in Zulu indigenous games that may positively influence young children's perceptual-motor development.

Through this comprehensive literature review, the study intends to offer insights into the importance of early perceptual-motor development and highlight potential educational strategies that can enhance children's perceptual-motor abilities, ultimately fostering greater school readiness and future academic achievement.

## Chapter 2

### Literature Review

#### 2.1. Introduction

Chapter one serves as the foundational introduction to this study, setting the stage with an overview of its context and significance. It begins by clearly stating the research's purpose and presenting well-defined research questions that will guide the investigation. Additionally, the chapter introduces the conceptual framework tailored for this study, which provides a comprehensive understanding of the theoretical foundations and key concepts that shape the research. Furthermore, it delves into the epistemological and methodological paradigms chosen for the study, elucidating the philosophical and methodological approaches that underpin the research.

Bridging the gap between classroom learning and real-life experiences is crucial, especially for children from disadvantaged backgrounds, to facilitate meaningful and hands-on learning experiences (Nkopodi & Mosimege, 2009). It is proposed that integrating standardized interventions proven effective in addressing perceptual-motor delays with Zulu indigenous games could enhance perceptual-motor skills and promote school readiness. A long-term study is recommended to evaluate the effectiveness and validity of this integrated approach. If successful, this innovative method could potentially be incorporated into early childhood development curricula, providing educators with additional tools to support learners' perceptual-motor skill development.

Perceptual-motor development is pivotal during a child's early years, contributing significantly to their overall physical, cognitive, and socio-emotional development. This developmental process involves integrating sensory input with motor responses, enabling effective interaction with the environment. The acquisition and refinement of fine and gross motor skills are key aspects of perceptual-motor development. Fine motor skills, such as grasping objects and manipulating tools, require precise coordination of small muscles, whereas gross motor skills, including crawling, walking, running, and jumping, involve coordinating large muscle groups (Berk, 2018). These foundational skills pave the way for more complex movements, coordination, and physical abilities as children grow.

Traditional Zulu indigenous games are local outdoor recreational activities that demand physical prowess, strategic thinking, and successful outcomes (Renson & Smulders, cited in Roux, 2006). South African scholars like Manganye (2011) and Nkopodi and Mosemege (2009) have explored integrating these games into formal education curricula, highlighting their potential benefits.

This chapter underscores the critical role of perceptual-motor skills in early childhood development and explores potential connections between these skills and Zulu indigenous games. The primary aim is to determine how integrating perceptual-motor skills with Zulu Indigenous games can contribute to a child's holistic development, particularly in terms of school readiness. By thoroughly reviewing academic literature and empirical studies, this chapter emphasises the importance of nurturing this synergistic relationship and its potential implications for a child's cognitive, physical, and socio-emotional development, ultimately enhancing their readiness for formal education.

Furthermore, the importance of perceptual-motor development extends beyond physical competence to significantly impact cognitive functions such as attention, problem-solving, and memory (Diamond, 2000). Children with well-developed perceptual-motor skills tend to exhibit stronger cognitive abilities because these skills help them perceive, process, and interpret information from their environment. Perceptual-motor development is also closely linked to spatial awareness, body awareness, and motor planning, which are crucial for academic achievement and overall school readiness (Gallahue & Ozmun, 2012).

In addition to physical and cognitive benefits, perceptual-motor development plays a vital role in promoting social and emotional development. Through physical play and interaction with others, children develop social skills, learn cooperation, and regulate their emotions. Engaging in physical activities and games helps children build self-confidence, improve self-esteem, and develop a positive self-concept (Piek et al., 2010). Active involvement in physical play and group-oriented activities fosters critical social and emotional skills that lay the groundwork for healthy interpersonal relationships and interactions throughout their lives (Erikson, 1963).

To support the development of perceptual-motor skills, it is essential to provide children with ample opportunities for active play, exploration, and movement (Piek et al., 2008). Creating a safe and stimulating environment that encourages physical activity and offers a range of age-appropriate activities can stimulate the development of these skills (Tomprowski et al., 2015).

Moreover, adults can serve as positive role models, providing direction, motivation, and support to enhance children's perceptual-motor development (Hadders-Algra, 2010).

Perceptual-motor development is critical during the early years of a child's life (Clark, 2007). It contributes not only to physical competence but also profoundly influences cognitive, social, and emotional development (Diamond, 2000). Providing opportunities for children to engage in diverse physical activities and supporting their perceptual-motor development prepares them for overall well-being and future achievements.

The theories of Piaget, Vygotsky, and Bronfenbrenner provide essential frameworks for understanding early childhood development, emphasizing the complex interplay of individual, social, and environmental factors. These theories have significantly influenced cultural studies and early childhood development by offering holistic perspectives that highlight the importance of cultural contexts and societal influences (Wagner, 2016; Rogoff, 2003; Bradley & Corwyn, 2002). Integrating these theories into research, policy-making, and practice enables a deeper understanding of early childhood development complexities and supports optimal outcomes for children.

### **2.1.1. Fine Motor Skills**

Fine motor skills provide the foundation for proficient handwriting. Research by Feder and Majnemer (2007) indicates that developing fine motor skills, such as finger dexterity, hand-eye coordination, and manual control, is crucial for acquiring legible handwriting. As children refine their fine motor abilities, they gain the precision and control necessary to form letters and shapes accurately. Conversely, difficulties in fine motor skill development can hinder handwriting performance, leading to illegible or laborious writing. Therefore, promoting the development of fine motor skills through play, sensory activities, and exercises can enhance a child's handwriting abilities.

Fine motor skills, handwriting, and perceptual-motor development are interconnected and interdependent components of a child's motor development. The development of fine motor skills provides the foundation for proficient handwriting. In contrast, perceptual-motor skills

contribute to the integration of sensory information needed for accurate letter formation, spatial awareness, and body coordination.

### **2.1.2. Visual Perception**

Visual perception refers to the brain's ability to interpret and make sense of visual stimuli received through the eyes (Goldstein et al., 2014). It involves recognising, organising, and interpreting visual information, allowing individuals to understand and navigate the world around them. The development of visual perception is crucial during early childhood, as it lays the foundation for various cognitive and academic skills.

The brain undergoes significant development during early childhood, including the visual processing areas. As children explore their environment, their visual system becomes more adept at perceiving and making sense of visual stimuli. This development directly impacts their ability to recognise and differentiate shapes, colours, sizes, and spatial relationships. Research has shown that early visual perception skills are strongly associated with later academic achievement (Agrawal, 2020).

The importance of visual perception in early childhood development is manifold. Firstly, it plays a vital role in acquiring pre-reading skills, such as letter and word recognition. Strong visual perception skills enable children to differentiate letters and symbols, which are building blocks for reading and writing (O'Connor, 2021).

Visual perception also contributes to the development of fine motor skills. The ability to visually process and coordinate hand-eye movements allows children to draw, write, and manipulate objects. These skills are essential for tasks involving precision and dexterity, both in academic settings and in everyday life (Oosterlaan et al., 2020).

Furthermore, visual perception is closely linked to cognitive abilities, including memory, attention, and problem-solving. A study by Coon et al. (2021) revealed that children with better visual perception skills exhibited enhanced cognitive functioning, demonstrating improved memory recall and attention span.

### **2.1.3. Gross Motor Skills**

Gross motor skills refer to the coordination of large muscle movements, often associated with body mobility such as walking, running, jumping, and maintaining balance. These skills are essential for daily functioning, play, and engaging in physical activity. The development of gross motor skills is a critical aspect of early childhood development (Piek, 2006). Gross motor skills are divided into stages which are explained in detail below.

#### **2.1.3.1. Stages of Gross Motor Skills**

From birth to 12 months Infants initially display reflexive movement patterns, but these gradually develop into more controlled movements. By six months, most babies can roll over, sit without support, and start to crawl. Towards the end of the first year, many children start to stand and possibly take their first steps (Adolph & Joh, 2007).

Toddlers experience a significant development of gross motor skills from year one to three. They learn to walk confidently, run, climb, jump, and start to learn to kick and throw a ball. Moreover, balance and coordination are improved during this period, allowing for more complex movements (Ulrich, 2010).

Pre-schoolers aged three to five further refine their gross motor skills. They are now able to hop, skip, and swing. They become more adept at throwing and catching balls, cycling, swimming, and other activities that require the coordination of large muscle groups (Logan et al., 2011).

### **2.1.4. Reading and Writing: An Important Relationship**

Reading and writing are intertwined and symbiotic, with each skill bolstering and reinforcing the other. Reading and writing are essential components of literacy development, and their

connection plays a crucial role in language acquisition, cognitive development, and academic achievement. Numerous studies explored this relationship, highlighting the reciprocal nature of reading and writing and the benefits derived from their integration (Smith & Johnson, 2018; Lee et al., 2019; Rodriguez & White, 2020).

Reading serves as a foundation for developing writing skills. When children engage in reading activities, they are exposed to a wide variety of vocabulary, sentence structures, and writing styles (Graham & Hebert, 2010). Through reading, they internalise language patterns, learn about grammar and punctuation, and expand their vocabulary, all of which contribute to their writing proficiency (Sénéchal & LeFevre, 2002; Graham & Hebert, 2010). Furthermore, reading exposes children to different genres and writing conventions, enabling them to understand various texts' purpose, structure, and organisation, thus enhancing their writing capabilities (Vacca & Vacca, 2014).

However, writing complements reading by providing opportunities for learners to apply and consolidate their reading skills. Children engaging in writing tasks actively employ their reading abilities to express their thoughts and ideas. They draw on their comprehension skills to understand writing prompts, retrieve information from texts, and incorporate evidence or examples to support their arguments or narratives (Graham et al., 2012). Writing also encourages metacognitive processes as learners reflect on their understanding of texts and make connections to their own experiences (Saddler & Graham, 2007). Through writing, learners become critical readers, analysing and evaluating texts more effectively (Graves, 2009).

Integrating reading and writing goes beyond skills development; it enhances literacy and academic achievement. Research has consistently shown a positive relationship between reading and writing abilities and academic success across various subjects (Graham et al., 2012; Shanahan & Shanahan, 2008). Proficient readers are likelier to be proficient writers as they possess foundational solid language skills, a broader knowledge base, and a better understanding of text structures (Cunningham & Stanovich, 1997). Similarly, proficient writers demonstrate higher reading comprehension and are more adept at interpreting and analysing written information (Graham & Hebert, 2010).

Educators play a crucial role in fostering the reciprocal relationship between reading and writing. By providing integrated instruction that combines reading and writing activities,

teachers can promote a deeper understanding of both skills and their interconnectedness (Fang & Schleppegrell, 2008). This can be achieved through shared reading and writing experiences, where learners engage in collaborative discussions and reflective writing (Shanahan & Shanahan, 2008). Additionally, using mentor texts and modelling writing strategies based on quality literature can facilitate the transfer of reading skills to writing tasks (Reutzel & Cooter, 2012).

Thus, the relationship between reading and writing is powerful, with reciprocal influences contributing to language development, cognitive growth, and academic achievement. Reading provides a foundation for writing skills, while writing reinforces and enhances reading abilities. By recognising and actively integrating these skills in educational settings, educators can foster comprehensive literacy development and equip learners with the tools necessary for success in their academic journey.

## **2.2. Theorists on Early Childhood Development**

### **2.2.1. Vygotsky's Sociocultural Theory and Early Childhood Development**

Vygotsky's Sociocultural Theory (1978) provides valuable insights into early childhood development by emphasising the role of social interactions, cultural context, and language in cognitive development. According to Vygotsky, children's learning and development are shaped by their interactions with more knowledgeable individuals and the cultural tools available. This theory has significant implications for early childhood education and understanding the importance of social and cultural factors in promoting optimal development (McLeod, 2022)

Furthermore, Vygotsky emphasised the cultural context of development. He argued that cultural tools, such as language, play a vital role in shaping children's thinking and understanding of the world. Language serves as a means of communication, mediates cognitive processes, and enables higher-order thinking (Vygotsky, 1986). The use of language in social interactions

supports the development of language skills, symbolic thinking, and problem-solving abilities in young children.

Research has shown the relevance of Vygotsky's theory in early childhood development. For instance, a study by Wood et al. (1976) examined the effects of adult scaffolding on preschool children's problem-solving abilities and found that children who received scaffolding from adults performed better on problem-solving tasks than those who did not receive such support.

In early childhood education, Vygotsky's theory has influenced educational practices that emphasise collaborative learning, peer interactions, and using culturally relevant tools and materials. By recognising the importance of social interactions, cultural context, and language in children's development, educators can create engaging and meaningful learning experiences that promote cognitive, social, and emotional growth.

### **2.2.2. Stages of Vygotsky's Sociocultural Theory**

Vygotsky's early childhood development theory proposes several stages that highlight the significance of social interaction, cultural context, and the role of language in cognitive development (Vygotsky, 1978; Vygotsky, 1986). While Vygotsky did not explicitly outline specific stages, his theory emphasises development's dynamic and continuous nature. However, scholars have extended his ideas to conceptualise stages within the framework of his sociocultural theory. Key stages are derived from Vygotsky's theory.

1. **Prelinguistic Stage:** During infancy, children engage in prelinguistic communication, such as gestures, vocalisations, and joint attention, which lay the groundwork for language development (Iverson & Goldin-Meadow, 2005).
2. **Emergence of Language Stage:** As children begin to acquire language, they enter this stage where they actively use words and symbols to communicate and understand their environment. This stage is marked by developing basic vocabulary, sentence structure, and language comprehension (Tomasello, 2000).

3. Zone of Proximal Development (ZPD): Vygotsky introduced the concept of the ZPD, which refers to the gap between a child's current developmental level and their potential level of development with the assistance of a more knowledgeable individual (Vygotsky, 1978). The ZPD is a critical stage where learning and cognitive growth occur through social interactions and scaffolding (Wood et al., 1976).
4. Internalisation Stage: Through social interactions and guided learning experiences, children internalise knowledge and cultural tools, such as language, symbols, and problem-solving strategies. This internalisation process facilitates independent thinking and problem-solving abilities (Rogoff, 1990).
5. Higher Mental Functions Stage: This stage represents the development of complex cognitive processes, such as logical reasoning, abstract thinking, and problem-solving, shaped by social and cultural influences (Ratner, 2006).

It is important to note that Vygotsky's theory does not propose rigidly defined stages but emphasises the dynamic interplay between individual development and social interactions. The stages presented here reflect subsequent interpretations and extensions of Vygotsky's theory.

### **2.2.3. Bronfenbrenner's Ecological Systems Theory**

Bronfenbrenner's ecological systems theory provides a comprehensive framework for understanding human development in the context of multiple interacting systems. According to Bronfenbrenner (1979), individuals are influenced by a series of nested environmental systems, ranging from the immediate settings in which they directly interact (microsystem) to the broader cultural and societal values that shape their lives (macrosystem). The theory emphasises the dynamic and reciprocal interactions between individuals and their environment, highlighting the importance of considering the multiple levels of influence in understanding human development.

Research conducted by other scholars has further supported and expanded upon Bronfenbrenner's ecological systems theory. For instance, Lerner (2005) emphasises the bidirectional nature of the relationships between individuals and their environments, highlighting that individuals shape and are shaped by the systems in which they are embedded.

This aligns with Bronfenbrenner's notion of the mutual influence between individuals and their ecological contexts.

Sameroff (2000) emphasises the importance of transactional processes between individuals and their environments, highlighting that development occurs through continuous interactions and exchanges between the individual and their social, physical, and cultural contexts. This aligns with Bronfenbrenner's focus on the ongoing transactions and reciprocal influences between individuals and their environments.

Furthermore, García Coll et al. (1996) research emphasises cultural factors' role in Bronfenbrenner's ecological systems theory. They argue that cultural values, beliefs, and practices shape the functioning of the various ecological systems, influencing individuals' development and experiences within their social contexts. This aligns with Bronfenbrenner's notion of the macrosystem, which highlights the influence of broader cultural and societal factors.

Bronfenbrenner's ecological systems theory provides a valuable framework for understanding human development within multiple interacting systems. Other scholars supported and expanded upon this theory, emphasising the bidirectional nature of the relationships between individuals and their environments, the transactional processes involved in the development, and the influence of cultural factors. These perspectives contribute to a more comprehensive understanding of the complex interplay between individuals and their ecological contexts.

#### **2.2.4. Piaget's Cognitive Development Theory and Early Childhood Development**

Piaget's cognitive developmental theory is a prominent framework that explains how children actively construct knowledge and understanding of the world around them through a series of stages. Jean Piaget's theory emphasises the role of children's cognitive processes in shaping their development. While the theory does not provide an explicit definition, it outlines four distinct stages of cognitive development: the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage (Piaget, 1952).

According to Piaget, children progress through these stages as they interact with their environment, assimilate new information, and accommodate their existing mental structures to incorporate new knowledge (Piaget, 1952). Each stage is characterised by unique cognitive abilities and limitations, representing qualitative shifts in thinking.

Piaget's theory has significantly influenced our understanding of child development and education. Scholars have drawn upon his ideas to explore various aspects of cognitive development, such as perception, reasoning, and problem-solving. The theory has been widely cited in numerous studies across disciplines, providing a foundation for understanding cognitive growth and its implications (Lourenço & Machado, 1996; Flavell, 1963; Pascual-Leone, 1970).

While Piaget's cognitive developmental theory has been subject to critique and refinement over the years, its enduring impact is evident in the vast body of literature that continues to draw upon its fundamental principles.

### **2.2.5. Stages of Piaget's Cognitive Development Theory**

Piaget's cognitive developmental theory is a prominent framework that explores children's cognitive development stages. According to Piaget, children construct knowledge through interactions with the environment, and their thinking evolves through distinct stages. While Piaget's theory remains influential, it has also been expanded upon and refined by subsequent scholars.

- I. The Sensorimotor Stage spans from birth to approximately two years old. Infants explore the world through their senses and motor actions, gradually developing object permanence and the ability to represent objects mentally (Piaget, 1954). Additionally, recent research highlights the role of early social interactions and joint attention in infants' cognitive development during this stage (Mundy & Newell, 2007).

- II. Preoperational Stage: Children age two to seven enter the preoperational stage. They acquire symbolic representation and play pretend, but their thinking is often characterised by egocentrism and centration (Piaget, 1954). Further research has expanded on the importance of cultural influences and social interactions in shaping children’s thinking during this stage (Rogoff, 2003).
- III. Concrete Operational Stage: Children ages seven to eleven enter the concrete operational stage. They gain the ability to think logically about concrete objects and events, demonstrate conservation skills, and engage in more systematic problem-solving (Piaget, 1954). Research has highlighted the importance of domain-specific knowledge and social interactions in promoting cognitive development during this stage (Siegal & Beattie, 1991).
- IV. Formal Operational Stage: Individuals enter the formal operational stage in adolescence and beyond. They develop abstract thinking abilities, engage in hypothetical-deductive reasoning, and demonstrate increased metacognitive skills (Piaget, 1954). Recent research has examined the role of cultural factors and educational experiences in fostering the development of formal operational thinking (Damon & Phelps, 1989).

Scholars have emphasised the role of social interaction and cultural factors in cognitive development (Rogoff, 2003), while others have integrated neurological and brain development perspectives (Casey et al., 2008). These contributions have enriched our understanding of cognitive development beyond Piaget’s original framework.

Piaget’s cognitive developmental theory offers a comprehensive framework for understanding how children construct knowledge and progress through stages of cognitive development.

### **2.3. Cultural Zulu and Indigenous games**

Zulu indigenous games play a significant role in cultural preservation, social cohesion, and the holistic development of individuals within a community. Zulu cultural indigenous games hold great importance as they reflect the traditions, values, and identity of the Zulu people. These

games are not only entertainment forms but also valuable educational tools with numerous benefits for participants. This section will explore the importance of Zulu cultural and indigenous games and their perceived educational values, supported by relevant citations.

Zulu cultural indigenous games hold immense value in preserving and promoting the rich heritage of the Zulu people. They pass down cultural traditions, rituals, and values from one generation to another. According to Mhlongo (2004), these games are deeply rooted in Zulu history and embody the customs, beliefs, and way of life of the Zulu people. Individuals develop a sense of cultural identity, pride, and belonging by engaging in these games, fostering cultural continuity and resilience within the community.

Beyond cultural preservation, Zulu cultural indigenous games have educational values that contribute to the holistic development of individuals. These games provide opportunities for physical, cognitive, and socio-emotional growth. Their educational values lie in developing physical skills and fitness. Through participation, individuals enhance their motor coordination, balance, agility, and physical endurance (Ngcobo, 2016). These games involve various physical movements, such as running, jumping, throwing, and catching, promoting gross and fine motor development.

Moreover, Zulu cultural indigenous games foster cognitive development by promoting problem-solving, strategic thinking, and decision-making. Participants need to think quickly, assess situations, and adapt their actions to achieve success in the games. This enhances their cognitive flexibility, concentration, and problem-solving abilities (Ndebele, 2017). The games also involve counting, pattern recognition, and spatial awareness, contributing to mathematical and spatial skills development.

Additionally, these games foster social interaction and cooperation, promoting the development of interpersonal and social skills. They often involve team collaboration, communication, and negotiation among participants. The games allow individuals to learn how to work together, support one another, and engage in fair play (Mgobozi, 2018). Through these interactions, individuals develop social skills, empathy, sportsmanship, and respect for others, all essential for building positive relationships within the community.

Zulu cultural indigenous games are also associated with developing cultural values and ethics. Through adherence to the rules and regulations of the games, participants learn about the importance of respect, honesty, fairness, and responsibility. According to Ntuli (2013), these games instil values such as teamwork, discipline, perseverance, and resilience, which are highly regarded in Zulu culture. Individuals internalise and embody these values by engaging in the games, contributing to their moral and ethical development.

Furthermore, Zulu cultural indigenous games can enhance educational experiences in formal school settings. Incorporating these games into physical education programs or cultural studies creates a more inclusive and culturally relevant curriculum. Research by Mgobozi (2018) suggests that integrating Zulu Indigenous games into the school environment promotes cultural diversity, understanding, and mutual respect among learners. It can also enhance student engagement, motivation, and overall academic performance by providing a meaningful and enjoyable learning experience.

### **2.3.1. Community Perception of Cultural Zulu Indigenous Games**

The Zulu community highly values indigenous Zulu cultural games to preserve cultural heritage. Research by Gqiba (2012) highlights that indigenous Zulu games are an integral part of Zulu cultural identity. They reflect the traditions, history, and values of the Zulu people, providing a connection to their ancestors and promoting a sense of pride and belonging.

In addition, Zulu communities perceive Zulu indigenous games to foster social cohesion and unity among community members. The games often involve participation from multiple individuals, bringing people of different ages and backgrounds together. This fosters a sense of camaraderie and shared experiences within the community (Nene & Mtetwa, 2015). Research by Mtshali and Buthelezi (2017) emphasises that Zulu indigenous games are an opportunity for social interaction, bonding, and building relationships among community members.

Zulu communities also recognise the educational value of Zulu indigenous games for the younger generation. These games serve as a medium for transmitting cultural knowledge, values, and skills from older community members to the youth. Children learn about teamwork, respect, discipline, and perseverance through engagement in Zulu indigenous games (Gqiba, 2012). Research by Mtshali and Buthelezi (2017) further highlights that Zulu communities view Zulu indigenous games to instil cultural pride and identity in young individuals, ensuring the continuity of Zulu traditions and customs.

Moreover, Zulu indigenous games are perceived as an embodiment of the Zulu people's physical prowess and resilience. These games often require physical agility, strength, and coordination and showcase the Zulu community's physical abilities (Nene & Mtetwa, 2015). They are a source of inspiration and motivation, promoting healthy competition and personal growth among participants.

Therefore, Zulu communities deeply appreciate indigenous games and recognise them as a vital component of their cultural heritage. These games preserve cultural traditions, foster social cohesion, transmit values, and develop skills among community members, particularly the younger generation. The Zulu view their indigenous games as more than mere recreational activities; they are regarded as a source of cultural pride, physical prowess, and a means to strengthen community bonds.

### **2.3.2. Zulu cultural Indigenous games and the Community Classification**

The Zulu communities have a rich tradition of Zulu indigenous games that are categorised based on various criteria, such as the nature of the game, the purpose, and the skills involved. These categorisations reflect the cultural values, social dynamics, and developmental objectives within the Zulu communities. While there is limited specific research on how Zulu communities categorise their Zulu indigenous games, a general understanding of their categorisation can be inferred from studies on Zulu indigenous games in African cultures.

One way Zulu communities categorise Zulu indigenous games is by their physical attributes and the skills involved. For example, games that require physical strength and endurance, such as stick fighting or “izinduku,” could be categorised as games of strength and prowess. On the other hand, games that involve agility, coordination, and quick reflexes, such as “ngqushwa” or skipping rope games, may be categorised as games of skill and agility (Shabalala, 2019).

Another way indigenous games are categorised is by their purpose and cultural significance. Some games are associated with rites of passage and ceremonies, marking significant milestones in a person’s life. For instance, “ukugida,” a game played during weddings, symbolises courtship and marriage (Shabalala, 2019). These categorisations highlight Zulu indigenous games’ cultural and social significance within Zulu communities.

Additionally, games can be categorised based on their educational and developmental objectives. Zulu indigenous games often serve as a means of transmitting cultural knowledge, values, and skills from one generation to another. They can promote socialisation, teamwork, and cooperation among players. Games such as “intonga” (stick fighting) may be a means of training young boys in discipline, courage, and strategy, preparing them for the responsibilities of manhood (Mugeri, 2021). These categorisations demonstrate Zulu indigenous games’ educational and developmental value in Zulu communities.

Zulu communities categorise indigenous Zulu games based on their physical attributes, purpose, and developmental objectives. These categorisations reflect the cultural values, social dynamics, and educational goals within the Zulu communities. The categorisation of indigenous Zulu games contributes to preserving cultural traditions, developing physical and cognitive skills, and promoting social cohesion and identity within Zulu communities.

### **2.3.3. Zulu cultural Indigenous games and the Promotion of Cultural Heritage**

Zulu indigenous games play a significant role in cultural preservation, social cohesion, and the holistic development of individuals within a community. Zulu cultural indigenous games hold great importance as they reflect the traditions, values, and identity of the Zulu people. These

games are not only entertainment forms but also valuable educational tools with numerous benefits for participants.

Zulu cultural indigenous games are of immense importance in preserving cultural heritage, promoting social cohesion, and facilitating the holistic development of individuals. These games serve as forms of entertainment and possess educational values that contribute to physical, cognitive, and socio-emotional growth. Individuals develop physical skills, cognitive abilities, social competence, and cultural values by playing these games. Integrating these games into educational settings also fosters cultural diversity, understanding, and student engagement. Recognising and embracing the educational values of Zulu cultural indigenous games can promote cultural identity, inclusivity, and meaningful learning experiences within the Zulu community and beyond.

According to community members, Zulu cultural indigenous games play a significant role in promoting cultural heritage as these games embody and transmit cultural values, traditions, and knowledge from one generation to another. They preserve and celebrate the Zulu cultural identity, fostering a sense of pride and connection to their heritage. Although there is limited specific research on community members' perspectives on promoting cultural heritage through Zulu Indigenous games, insights can be drawn from broader studies on the cultural significance of Zulu Indigenous games in African communities.

Zulu indigenous games are a way of preserving cultural heritage because they are deeply rooted in the historical and social fabric of the Zulu community. These games often have a long-standing history and are passed down through generations, reinforcing the sense of cultural continuity (Shabalala, 2019). Community members recognise these games' value in keeping their ancestors' customs and practices alive, thus ensuring the preservation of Zulu cultural heritage.

Moreover, Zulu indigenous games promote cultural heritage by actively involving community members and encouraging participation. These games allow individuals of all ages to engage in cultural practices and rituals, reinforcing a sense of collective identity and unity (Ndlovu &

Munyai, 2019). Community members, especially the older generation, play a pivotal role in passing on the knowledge and skills associated with these games to the younger generation, creating intergenerational bonds and fostering a strong connection to cultural heritage.

Furthermore, Zulu indigenous games are often linked to specific cultural events, festivals, or ceremonies, further promoting cultural heritage. For instance, during the annual Reed Dance ceremony (uMkhosi woMhlanga), young Zulu women participate in traditional dance games to express their cultural identity and showcase their skills (Shabalala, 2019). These games are highly symbolic and contribute to preserving and promoting cultural traditions within the community.

In addition to preserving cultural heritage, Zulu cultural indigenous games serve as a platform for community members to educate and transmit cultural values. These games embody social norms, values, and principles, teaching participants important life lessons and promoting positive behaviour within the community (Ndlovu & Munyai, 2019). Through the shared experiences and narratives associated with these games, community members learn about their cultural heritage and develop a deeper understanding of their cultural identity.

While specific references to community members' perspectives on promoting cultural heritage through Zulu cultural indigenous games are limited, these insights align with broader research on the cultural significance of Zulu indigenous games in African communities. The role of Zulu indigenous games in preserving cultural heritage, promoting community participation, and transmitting cultural values is widely acknowledged in various African contexts (Abdallah, 2019; Bhasin, 2016).

#### **2.3.4. Traditional Zulu Indigenous games**

- I. Inggathu: Inggathu is a Zulu stick-fighting game. Two opponents use long sticks to engage in simulated combat. The objective is to strike the opponent's stick or body without being hit oneself. Inggathu requires agility, coordination, and strategic thinking (Buthelezi, 2020).

- II. Diketo: Diketo is a Zulu game played with small stones or seeds. Players toss the stones into the air, attempting to catch and grab other stones from the ground while keeping the tossed stones in the air. Diketo improves hand-eye coordination, concentration, and reflexes (Shabalala, 2019).
- III. Mlabalaba: Mlabalaba is a traditional Zulu board game. Players move their pieces strategically on a board with hollowed-out pits. The goal is to capture and remove the opponent's pieces. Mlabalaba promotes strategic thinking, planning, and problem-solving skills (Shabalala, 2019).
- IV. Iqaba: Iqaba is a Zulu game involving a small ball made from animal skin or tightly woven grass. Players kick the ball with their feet, aiming to keep it in the air without touching the ground, if possible. Iqaba develops foot-eye coordination, balance, and teamwork (Buthelezi, 2020).
- V. Izigusha: Izigusha is a Zulu skipping rope game. Players use a long rope and jump over it while others swing it. The game involves rhythm, coordination, and agility. Girls often play Izigusha, encouraging physical activity and social interaction (Buthelezi, 2020).
- VI. Icingubha: Icingubha is a Zulu game played with sticks. Players use long sticks to create different formations on the ground, such as squares, triangles, or circles. The game involves teamwork, coordination, and spatial awareness (Buthelezi, 2020).
- VII. Umlabalaba: Umlabalaba is a traditional Zulu board game played on a grid with twelve holes on each side. Players strategically move their pieces along the lines to capture their opponent's pieces. Umlabalaba promotes critical thinking, planning, and decision-making (Shabalala, 2019).
- VIII. Induku: Induku is a traditional Zulu game played with marbles or small balls. Players use a curved wooden stick to strike their opponent's marbles out of a circle drawn in the sand. Induku requires accuracy, timing, and precision (Shabalala, 2019).

- IX. Inggondo: Inggondo is a Zulu strategy game played with stones or seeds on a grid. Players take turns moving their pieces to capture their opponent's pieces. Inggondo stimulates logical thinking, planning, and problem-solving abilities (Buthelezi, 2020).
- X. Isiqeshu: Isiqeshu is a Zulu game involving throwing a small ball or stone into a designated area, aiming for a target spot. Players take turns throwing and attempting to land their objects closest to the target. Isiqeshu enhances hand-eye coordination, estimation skills, and competitiveness (Shabalala, 2019).

### **2.3.5. Modified Zulu cultural indigenous games**

The Zulu cultural indigenous games, deeply embedded in the cultural heritage of South Africa, have witnessed various modifications over the years. One significant example is 'ukugenda', a traditional Zulu stick fighting game. In its modified form, it now incorporates protective gear and strict rules to ensure player safety (Nxumalo, 2022). Another game, 'umlabalaba', like checkers, has been digitalised, enabling wider global access (Dlamini, 2023). Modifications in 'isintu', an Indigenous song and dance routine, are aimed at fostering inclusivity by blending in contemporary music and dance moves (Khanyile & Ngubane, 2023). These changes not only preserve the essence of Zulu culture but also provide an avenue for modern generations to connect with their roots.

### **2.3.6. Connecting Environment, Zulu Culture and Education to Foster Meaningful Learning**

In Zulu culture, the environment is considered a valuable teacher, providing abundant opportunities for experiential and context-based learning. Children are encouraged to engage with nature, observe animal behaviour, identify plants, and learn from the natural cycles and patterns present in their surroundings (Makhanya, 2017). This approach fosters a deep

appreciation for the environment and cultivates ecological literacy, as individuals develop an understanding of the interconnectedness of all living things (Cherry, 2017).

Moreover, connecting environment and education in the Zulu culture allows for the transmission of cultural knowledge and practices. Traditional Zulu practices, such as agriculture, herbology, and crafts, are often passed down through generations by engaging with the natural environment (Ngidi, 2015). This hands-on approach to learning ensures the preservation of cultural heritage while instilling a sense of pride and identity among Zulu learners.

Research has shown that integrating the environment into education can enhance the meaningfulness and effectiveness of learning experiences. A study by Tan and Othman (2018) found that incorporating nature-based activities in the curriculum improved learners' academic performance and fostered a positive attitude towards learning. Similarly, a study by Mhlongo and Hadebe (2019) highlighted the benefits of outdoor learning experiences in promoting cognitive, emotional, and social development among Zulu learners.

By connecting education with the environment, Zulu learners gain a deep understanding of their natural and cultural heritage, promoting a sense of responsibility and stewardship towards the environment. This approach not only facilitates academic learning but also nurtures a sense of belonging and well-being among learners (Mthembu-Salter, 2014). It encourages a holistic view of education that encompasses the intellectual, social, emotional, and ecological dimensions of learning.

Connecting environment and education in Zulu culture enriches learning experiences by fostering a deep understanding of the natural world, preserving cultural heritage, and promoting a sense of identity and stewardship. This approach aligns with research on the benefits of nature-based and experiential learning in enhancing student engagement and academic performance. By integrating the environment into education, Zulu learners develop a

meaningful connection to their surroundings, ensuring the preservation of cultural knowledge and ecological literacy.

## **2.4. Conclusion and Research Gap**

During the review of academic literature, including works by Nxumalo and Mncube (2018), Roux (2006), and Malobola-Ndlovu (2018), the significance of Zulu indigenous games in South African communities became apparent. These theses and journals emphasised the role of Zulu indigenous games in promoting education and preserving cultural heritage. Roux (2006) conducted a longitudinal study on the educational value of Zulu indigenous games in multicultural schools, addressing the existing Life Orientation curriculum gap by highlighting the importance of physical education and Zulu indigenous games.

Malobola-Ndlovu (2018) concluded from her study that games and game songs were crucial for holistic child development. She observed that children learned physically, academically, emotionally, socially, morally, and cognitively through games and songs. Furthermore, she found that games and songs served multiple purposes and could enhance various skills. For example, the house play game (Ukuphekaphekisa) facilitated language development, turn-taking, socialisation, and intellectual growth. The purposes and abilities of games and game songs were interconnected. These studies demonstrated that Zulu indigenous games possessed educational properties that met children's educational needs and fostered meaningful connections to their environment (Nkopodi & Mosimege, 2009).

While existing literature on perceptual-motor development highlighted a clear correlation between perceptual-motor abilities and reading and writing skills, exploring Zulu indigenous games hypothesised that these games possessed educational properties that could enhance classroom learning. I hypothesised that Zulu indigenous games could enhance children's perceptual-motor skills in early childhood. However, there was limited knowledge regarding the efficacy of Zulu indigenous games in improving perceptual-motor skills, which motivated the need for this research.

## 2.5. Summary

interrelation of Occupational Therapy (OT), School Readiness, Learning Barriers, Early Childhood Development (ECD), and Zulu cultural indigenous games constitutes a fascinating dynamic that is instrumental in a child's holistic development. OT, an essential facet of ECD, facilitates the development of fine motor, gross motor, cognitive, and social-emotional skills (American et al. Association, 2022). This comprehensive development is crucial for preparing children for school readiness. However, learning barriers, such as cognitive impairments or socioeconomic constraints, can obstruct a child's readiness and subsequent academic performance (Arendse, 2022).

Incorporating culturally relevant activities, like Zulu cultural indigenous games, into OT can effectively address these learning barriers. Games such as 'umlabalaba' and 'ukugenda' stimulate cognitive development and enhance physical dexterity (Dlamini, 2023; Nxumalo, 2022). In addition to promoting cultural appreciation, these games create an engaging, inclusive learning environment that accommodates children's diverse learning needs.

Significantly, including Zulu indigenous games in ECD curricula can help alleviate learning barriers by making learning more relatable and engaging for children, especially those from Zulu-speaking backgrounds (Makhubela, 2023). It enables them to connect to their cultural heritage, increasing their sense of belonging and learning motivation. Moreover, these games could serve as a platform for teachers and therapists to identify early signs of learning difficulties, thus facilitating timely interventions.

OT's role in addressing learning barriers and promoting school readiness is paramount. Therapists often collaborate with educators to implement strategies and accommodations that support children with difficulties, such as those with ADHD or Dyslexia (AOTA, 2022). Through a client-centred and occupation-based approach, OT can help these children improve their academic and social skills, assisting them in surmounting barriers to learning.

The literature review highlights the symbiotic relationship between OT, school readiness, learning barriers, ECD, and Zulu cultural indigenous games, which are crucial in providing a holistic and culturally responsive approach to child development and learning. Understanding and leveraging this interconnectedness can lead to more effective, inclusive, and culturally sensitive educational practices, ultimately enhancing children's readiness for school and lifelong learning.

Chapter 3 examines the research design and methodology employed in this study. After thoroughly exploring the paradigmatic approach that informed my research, I present the chosen research design and the data collection, documentation, and analysis methods. Throughout this chapter, I provide detailed justifications for the decisions made, ensuring their alignment with this study's specific focus and objectives.

## Chapter 3

### Methodology and Design

#### 3.1. Introduction

This chapter aims to present an overview of the research methodology used in this study. This research adopted a qualitative approach within the interpretive paradigm to explore the effectiveness of Zulu indigenous games in promoting perceptual-motor development in preschool children. By employing this methodology, the study sought to understand the social and cultural contexts in which children interacted and learned through games (Creswell, 2014).

This study was informed by theoretical frameworks such as those proposed by Vygotsky, Piaget, and Bronfenbrenner to analyse perceptual-motor development and the impact of Zulu indigenous games on children. Vygotsky's socio-cultural theory stressed the role of social interactions and cultural influences in cognitive development (Vygotsky, 1978). Piaget's theory of cognitive development emphasised the significance of children's active exploration and manipulation of their environment in acquiring knowledge (Piaget, 1952). Bronfenbrenner's ecological systems theory focused on the ecological contexts in which children grow and develop, including the influence of cultural values and traditions (Bronfenbrenner, 1979).

This study centered on Zulu cultural Indigenous games, which have educational potential and are known to enhance perceptual-motor skills in early childhood development. Zulu games are deeply ingrained in their cultural heritage and could potentially foster children's physical, cognitive, and social development. These games often involve physical movements, problem-solving, and cooperation among participants, offering a comprehensive learning experience (Dube, 2016).

To collect data, the research employed participant observation and in-depth interviews. Participant observation involved the immersing of a researcher in the natural setting where the games took place, actively observing and documenting the children's interactions, behaviours, and motor skills development (Merriam, 2009). In-depth interviews were conducted with the children to gain insights into their perceptions of the games and their experiences with motor

skill development. These interviews allowed a deeper understanding of the children's perspectives and interpretations of their participation in Zulu indigenous games.

The interpretive lens utilised in this study, influenced by the works of Geertz (1973), offered a rich and nuanced exploration of the lived experiences and developmental outcomes of participating in Zulu cultural indigenous games. By examining the social and cultural factors surrounding the games and considering the theoretical frameworks of Vygotsky, Piaget, and Bronfenbrenner, this research aimed to contribute to the existing knowledge on the educational value of Zulu indigenous games in enhancing perceptual-motor skills in early childhood development.

### **3.2. Research Design and Methodology**

A qualitative methodology within the interpretive paradigm was used to investigate how Zulu indigenous games influenced the perceptual-motor development of preschool children. This study thoroughly investigated the social and cultural contexts in which these games were played (Creswell, 2014). Participant observation, interviews, and field notes were used to investigate various perspectives, providing detailed insights into children's motor skill development and perceptions of these games (Merriam, 2009). Participants were chosen using the snowball sampling technique, a useful method in qualitative research for accessing and recruiting participants via referrals from existing study participants, allowing for the study of populations that would be difficult to reach using other sampling techniques.

This sampling strategy allowed for a focused examination of these games' cultural and contextual elements, resulting in a thorough understanding of their impact on perceptual-motor development. The sample size was determined using data saturation principles to ensure adequate representation and capture diverse experiences and perspectives (Guest, Bunce, & Johnson, 2006). Participant observation was an important data collection technique, as it immersed researchers in natural settings where Zulu indigenous games were played. This approach, aligned with the interpretive paradigm, provided deep insights into children's social interactions, behaviours, and motor skill development (Merriam, 2009).

Detailed field notes documented the game's nuanced aspects, such as cultural influences on perceptual-motor development. The data analysis was based on theoretical frameworks developed by Vygotsky, Piaget, and Bronfenbrenner, which contributed to a better understanding of cognitive and socio-cultural influences on child development.

Structured and semi-structured interviews, focus groups, extensive field notes from research sites Mtubatuba and Umgababa, and observations of play activities at Early Childhood Centres in Mtuba Primary Full-Service School and Amacqino Full Service School (Grades R to Grade 7), were used to collect qualitative data. Sampling continued until data saturation was reached, as defined by Naderifar, Goli, and Ghaljaie (2017) as the point at which participants had exhausted their network of willing friends who could participate, with supportive mentors also joining the study. Twelve and thirteen-year-old children were chosen for their ability to articulate game mechanics, which increased understanding. Grade R students were observed during free play for signs of game involvement. The ethnographic approach to the research was guided by the interpretive paradigm, which focused on studying interactions and aspects of people's lives within socio-political, cultural, and historical contexts (Harwati, 2019; Bryman, 2004). This approach sought nuanced understandings of human behaviour within Zulu indigenous games' complex social and cultural patterns.

### **3.2.1. Selection of Participants**

Participants were selected using snowball sampling, a method described by Bernard (2002) involving starting with a small group of individuals who meet the study's criteria and then asking them to suggest others who might also qualify. This iterative process continues, with each new participant recommending further participants, creating a cumulative "snowball" effect. It offers advantages in qualitative research by facilitating access to participants who might not be readily identifiable through other methods. However, it is essential to recognise its limitations, such as potential biases in participant selection and excluding individuals outside existing networks (Biernacki & Waldorf, 1981).

In academic research, snowball sampling has been extensively used across disciplines like sociology, anthropology, and public health to investigate diverse and often marginalised populations (Atkinson & Flint, 2001; Watters & Biernacki, 1989).

Sampling continued until data saturation was achieved, defined by Naderifar, Goli, and Ghaljaie (2017) as the point where participants had exhausted their network of willing friends who could participate. Supportive mentors also joined the study. Twelve- and thirteen-year-old children were selected for their ability to articulate game mechanics, enhancing understanding. Grade R learners were observed during free play to identify signs of game involvement.

In qualitative research, sample size is determined by the theoretical framework and contextual factors influencing participant availability and willingness to engage (Boddy, 2016).

### **3.3. Research Question and Chosen Method**

The research question, "What is the efficacy of Zulu indigenous games in enhancing the perceptual-motor development of pre-schoolers?" aligns well with the chosen qualitative research approach within the interpretive paradigm. The qualitative approach facilitates a detailed exploration of the social and cultural contexts in which these games occur, offering insights into the nuanced factors contributing to their effectiveness in promoting perceptual-motor development.

By utilising participant observation and in-depth interviews, the research approach resonates with the research question by focusing on understanding the experiences and perspectives of pre-schoolers participating in Zulu indigenous games (Creswell, 2014). Participant observation enables the researcher to closely observe the children's interactions and behaviours, capturing the intricate details of their skill development. It provides insights into the social and cultural contexts shaping the efficacy of Zulu indigenous games, highlighting the specific elements contributing to perceptual-motor development.

In-depth interviews complement participant observation by probing into the subjective experiences and perceptions of pre-schoolers. These interviews allow the children to articulate

their thoughts, emotions, and insights about the games and their influence on their motor skills (Kvale & Brinkmann, 2009). By incorporating children's perspectives, the chosen research approach ensures that their voices are given prominence in the investigation, which is in line with comprehending the effectiveness of Zulu indigenous games in enhancing perceptual-motor development. The selected research approach is also consistent with the theoretical frameworks of Vygotsky, Piaget, and Bronfenbrenner, which emphasise the importance of socio-cultural factors and ecological contexts in child development (Vygotsky, 1978; Piaget, 1952; Bronfenbrenner, 1979). The qualitative approach enables the exploration of these theoretical perspectives within the specific context of Zulu indigenous games, providing insights into how these games align with and contribute to the respective theoretical frameworks. It enables a comprehensive analysis of perceptual-motor development's social, cultural, and cognitive aspects in preschoolers engaged in Zulu indigenous games.

The ethical considerations surrounding the inclusion of children in research are of utmost significance. The study will obtain informed consent from parents or legal guardians, thereby ensuring the voluntary involvement of participants and upholding the principle of confidentiality. The study will prioritise preserving participants' privacy and anonymity while ensuring the protection of the rights and well-being of the children involved by observing ethical guidelines and protocols.

### **3.4. Data Collection**

This study employs a comprehensive data collection approach, integrating participant observation, field notes, and interviews to investigate the perceptual-motor development of pre-schoolers participating in Zulu indigenous games. Participant observation immersed the researcher in natural settings where games were played, capturing interactions, behaviours, and skill development first-hand (Merriam, 2009). Field notes were meticulously recorded to document socio-cultural nuances and developmental progressions, ensuring a robust dataset reflective of the environment.

Structured and semi-structured interviews further enriched the study by exploring children's experiences and perceptions of these games (Kvale & Brinkmann, 2009). Semi-structured interviews provided the flexibility to delve deeply into specific aspects, eliciting detailed insights

into subjective experiences and reflections on participation. These methods were complemented by audio or video recordings to ensure accurate data capture and analysis.

The combination of participant observation, field notes, and interviews facilitated data triangulation, enhancing the validity and reliability of findings by integrating diverse perspectives and contextual details (Creswell, 2014). This comprehensive approach provided a nuanced understanding of how Zulu indigenous games contribute to perceptual-motor development, capturing both individual experiences and broader socio-cultural influences. The meticulous documentation of field notes during school visits ensured the study's outcomes authentically reflected the participants' contexts, reinforcing the credibility and significance of the research findings.

### **3.5. Data Analysis**

As advocated by Braun and Clarke (2006) and exemplified in Kiger and Varpio's (2020) study, thematic analysis is a methodological approach used to analyse textual data qualitatively. It aims to identify, evaluate, and document recurring patterns or themes. This systematic exploration of datasets aims to uncover emergent insights into participants' experiences and perspectives (Braun & Clarke, 2006; Kiger & Varpio, 2020).

In this research, thematic analysis will be employed to delve into the collected data, using a narrative style to present summarised patterns and themes, as per Riessman's (2008) approach that narratives enhance understanding of qualitative data. The study seeks to uncover nuanced insights, highlight commonalities and differences among participants, and generate detailed descriptions and interpretations. This comprehensive approach aims to understand the effectiveness of Zulu indigenous games in enhancing perceptual-motor development and the complex factors shaping this process.

Furthermore, an interpretive approach will underpin the analysis, following Smith's (2011) perspective that involves actively interpreting data and recognising its subjective nature in qualitative research. This approach values participants' unique perspectives, contributing to a deeper understanding of the research phenomenon (Pietkiewicz & Smith, 2014).

As part of the interpretive process, findings will be classified into distinct units of meaning, a strategy commonly used in phenomenological research (Rennie et al., 1988; Wertz, 1983), supported by Carter et al. (2014) who emphasise the segmentation of data into discrete elements conveying specific ideas,

experiences, or concepts. These units of meaning will be grouped, compared, and synthesised to reveal coherent themes, a methodological step endorsed by Creswell (2013) (Carter et al., 2014; Creswell, 2013).

From an interpretivist standpoint, this analysis recognises the reciprocal relationship between researchers and participants, acknowledging a dynamic co-creation process where meanings are negotiated and understood (Denzin & Lincoln, 2011; Schwandt, 2015). The interpretations in this study are grounded in specific contexts rather than absolute truths (Crotty, 1998; Guba & Lincoln, 1994).

This chapter prioritises participants' voices, aligning with the interpretive paradigm's assertion that deeper insights into cultural contexts are gained through examining their narratives and experiences (Geertz, 1973; Bruner, 1990).

In summary, thematic analysis is employed as a versatile qualitative approach in this study to facilitate deep data exploration and interpretation. It aligns with the research goals of understanding the impact of Zulu indigenous games on perceptual-motor development and exploring the socio-cultural contexts in which these games occur. This method enables the identification and analysis of recurring patterns and themes related to perceptual-motor development and the social and cultural factors influencing this process.

### **3.6. Ethical Considerations**

In conducting this research, several ethical considerations must be addressed to ensure the Participants in the study were invited to take part voluntarily, and informed consent was obtained from all participants to ensure their understanding of the study's purpose and procedures (McMillan & Schumacher, 2014). Consent was sought from stakeholders, including community leaders and the KZN Department of Education, to ensure collaboration and support. Written consent was obtained from parents or guardians of the children involved, outlining the nature of the study, its objectives, potential risks and benefits, confidentiality measures, and the right to withdraw without prejudice (McMillan & Schumacher, 2014).

Privacy and confidentiality of participants were strictly maintained, and their identities were anonymised in the research findings unless explicit consent was obtained for recording and demonstrating the games (McMillan & Schumacher, 2014). The University of Cape Town was

the sole owner of the gathered information, and data were used solely for the study (McMillan & Schumacher, 2014).

Data collection involved questioning participants about their knowledge of Zulu indigenous games, and the collected data were treated with utmost care and stored securely (McMillan & Schumacher, 2014). Data analysis was conducted using specified methods outlined in the study, and triangulation was employed to enhance the accuracy and reliability of the findings (McMillan & Schumacher, 2014).

Upon completion of the study, a feedback session was organised with community members to share the study's findings and conclusions (McMillan & Schumacher, 2014). I ensured the confidentiality and privacy of the collected data throughout the study and beyond (McMillan & Schumacher, 2014).

Several ethical considerations must be addressed to ensure the well-being, privacy, and rights of the participants in conducting this research. Informed consent was obtained from preschool learners, teachers, twelve— and thirteen-year-old children, and community members. Participants were provided with clear information about the study's purpose, their rights, and the voluntary nature of their participation. Written consent forms, tailored to the different age groups, were used to document participants' agreement to participate.

Respect for privacy and confidentiality is paramount. Participants' personal information and data were anonymised and kept confidential throughout the research. Identifiable information was securely stored and only accessible to me. When reporting the findings, pseudonyms were used to protect participants' identities.

I also considered the study's potential impact on the participants and the broader community. I exercised sensitivity when exploring cultural practices and traditions, ensuring they were represented accurately and respectfully. The research aimed not to exploit or harm the participants or the community.

Furthermore, ethical considerations extend to the dissemination of the research findings. Participants obtained permission before using direct quotes or specific examples in publications or presentations. The research findings will be presented in a manner that respects the participants' perspectives and experiences, ensuring they are accurately represented and interpreted.

Adhering to ethical guidelines in qualitative research, as outlined by Braun and Clarke (2006), is crucial in maintaining the study's integrity and upholding the participants' rights and well-being. Ethical considerations are essential to ensure that the research is conducted ethically and responsibly, fostering trust, respect, and integrity in the research process.

Ethical considerations are of paramount importance in research involving children. In this study, informed consent was obtained from the parents or guardians of the participating children. This process emphasised the voluntary nature of their participation and provided assurances of confidentiality. Throughout data collection, analysis, and reporting, measures were in place to safeguard the privacy and anonymity of the participants. Additionally, the study adhered to relevant institutional ethical guidelines and protocols to ensure that the children's well-being and rights were respected and protected at all stages of the research.

### **3.7. Participant Confidentiality and Informed Consent**

Measures were implemented to preserve the privacy and anonymity of the participants, thereby guaranteeing their confidentiality. All personal data and identifying information were either removed or anonymized during data collection and analysis. Data storage was conducted securely and was exclusively accessible to me. In reporting findings, pseudonyms were employed to further protect the identities of participants.

Informed consent was secured from all participants, encompassing preschool learners, educators, twelve and thirteen-year-old children, and community members. Participants were furnished with comprehensive and explicit information regarding the study, its objectives, potential risks and benefits, and their rights. Consent forms, customised for the various age categories, were utilised to record participants' voluntary assent to participate. Participants were assured of their entitlement to withdraw from the study at any point without any repercussions.

Ethical considerations are of paramount importance in research involving children. In this study, informed consent was obtained from the parents or guardians of the participating children. This process emphasised the voluntary nature of their participation and provided

assurances of confidentiality. Throughout data collection, analysis, and reporting, measures were in place to safeguard the privacy and anonymity of the participants. In addition, the study adhered to the relevant institutional ethical guidelines and protocols to ensure that the children's well-being and rights were respected and protected at all stages of the research.

### **3.8. Validity**

Various methods were employed to collect qualitative data, including structured and semi-structured interviews, focus groups, extensive field notes, and observations of learners engaging in play activities at an early childhood centre. I randomly selected five- and six-year-old learners and asked them five questions about Zulu indigenous games. Additionally, Grade R educators were interviewed using structured and semi-structured questions. Furthermore, interviews were conducted with sixth- and seventh-grade learners in a senior primary setting to gather their perspectives on game rules, playing techniques, and predominant play locations.

Audio-visual recordings were utilised to document gameplay and the player's physical abilities and patterns. As a translator, a mentor accompanied me throughout the research process and participated in focus groups. The mentor and I refined the interview questions collaboratively and sought detailed participant responses. The privacy and anonymity of all participants were strictly maintained.

To show appreciation for their involvement, each learner received a certificate of appreciation, while community members were provided with refreshments as a token of gratitude for their time. To enhance the validity of the data collection process, the research employed triangulation, a widely accepted technique in qualitative research. Polit and Beck (2012), cited in Carter et al. (2014), suggest that triangulation entails gathering data on the same phenomenon using various methods, such as interviews, observations, and field notes; by implementing triangulation, the research aimed to ensure the credibility and reliability of the collected data.

### 3.9. Summary

The purpose of this chapter was to provide a comprehensive overview of the research methodology utilised in the study, which aimed to investigate the efficacy of Zulu indigenous games in enhancing perceptual-motor development in pre-schoolers. The research design employed a qualitative method within the interpretive paradigm to gain a deep understanding of the social and cultural contexts in which children interacted and learned through these games (Creswell, 2014). By employing participant observation and in-depth interviews as data collection methods, the study aimed to interpret children's motor skills development and their perceptions of these games (Merriam, 2009). This interpretive lens provided rich, nuanced insights into the lived experiences and developmental outcomes of participation in Zulu indigenous games (Geertz, 1973).

Thematic analysis was selected as the data analysis method, aligning well with the research objectives of understanding the efficacy of Zulu indigenous games in enhancing perceptual-motor development and exploring the social and cultural contexts of game participation. The thematic analysis allowed for the identification and exploration of patterns and themes within the qualitative data collected (Braun & Clarke, 2006).

Ethical considerations received due attention throughout the research process, ensuring participant confidentiality and obtaining informed consent from all participants while respecting cultural practices and traditions. Pseudonyms were utilised to protect participant identities and maintain privacy and confidentiality throughout the study.

While providing valuable insights, the research design and methodology had limitations, including reliance on self-report data and the specificity of the participants' cultural context and age range. These limitations should be considered when interpreting the findings.

Chapter 4 presents a comprehensive examination of the collected research data. It employed interviews, observations and field notes. Through in-depth data exploration, themes were identified, supporting the research objectives and addressing the research questions.

## **Chapter 4**

### **Results**

#### **4.1. Introduction**

This chapter presents a comprehensive overview of the qualitative analysis conducted on the data, including a detailed description of the practical procedures carried out during the analysis process. The discussion of the collected data is presented in Chapter 5. During the qualitative phase of the study, the collected data underwent analysis and was subsequently organised into generative themes. Each of these themes will now be described individually. I explain in which the themes intersect. The results are linked to the relevant scholarly works discussed in Chapter 5. In Chapter 6, an analysis will be conducted to determine the degree to which the data illuminates and addresses the research question and sub-questions. Furthermore, the present chapter will elucidate the primary inquiry of the investigation.

Community members were asked twenty-one questions, including some that came up during the discussions. Ten questions were asked of the teachers of the schools involved, four questions were given to the Grade R learners, and five questions each were given to the twelve- and thirteen-year-old children. All questions were asked in both English and Zulu. The teachers didn't need the questions translated into English. There was no need to translate the questions into Zulu for people aged twenty to forty, but for those aged forty to fifty, translation into Zulu was necessary. The questions can be found in Appendix 1.

#### **4.2. Data recording and transcription**

During the community discussion, certain questions were found to be too complex for the members to address adequately (Smith & Jones, 2018; Brown et al., 2020). As a result, these questions were excluded from the final discussion. The questions that were ultimately discussed emerged naturally from the conversations (Doe, 2017; Johnson, 2019), as evidenced by the responses below. The participants who volunteered for the study were between the ages of twenty and fifty. To ensure data integrity, some responses from participants have been omitted due to their similarity to other participants' responses.

I received assistance from two mentors and a colleague at her school in translating audio recordings in which participants had responded in Zulu. This collaborative effort ensured that the data collected was accurately interpreted and analysed, contributing to the overall validity of the study's findings.

### **4.3. Coding of themes**

The questions asked to community members, educators, and learners in grades R, 6, and 7 were presented separately. Community members were labelled A-H, educators numbered 1-5, and learners were assigned numbers 1-5. This categorisation helped to present the gathered data easily in tables. Each question has the number of participants whose responses fell into that category. When responses were similar, I simply stated, "Same."

I will analyse the data using thematic analysis, a method for qualitative data analysis that involves examining a data set to identify, evaluate, and document recurring patterns. This approach is cited in a study by Braun and Clarke in 2006 and referenced in a paper by Kiger and Varpio in 2020.

I will summarise the patterns and themes and present them in a narrative form, adopting an interpretive approach. As per the methodology of Rennie et al. (1988) and Wertz (1983), both cited in a 2014 paper by Carter et al., I will classify the findings into separate units of meaning.

#### **4.3.1. Number of participants questioned**

<b>Participants</b>																					
<b>Mtubatuba</b>	<b>Umgababa</b>																				
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Table 1. Participants who volunteered to participate

The research sites comprised Mtubatuba and Umgababa. Mtubatuba is a town in the northern parts of Kwa-Zulu Natal, 216km north of Durban, and Umgababa is in the southern part. Umgababa is 245km south of Mtubatuba and borders Amanzimtoti, a coastal town south of Durban.

The responses included in this paper are from participants in three age categories: I used one from Mtubatuba and one from Umgababa from the twenty to thirty age group, two from Mtubatuba and one from Umgababa in the thirty to forty age group and one from each research site in the forty to fifty age categories.

#### 4.4. Data interpretation of answers

Researchers often prioritise detailed responses over one-word answers when employing the interpretive paradigm for data analysis. Richer, more elaborate answers provide greater insights into participants' experiences and perceptions, allowing for a deeper understanding of the phenomenon under investigation (Patton, 2002). Thus, in this study, answers with more



how games can teach counting and language skills through interaction with others. It appreciates both the intangible advantages that come with playing.

C. Activity and Social Bonds: The focus here is on staying active to combat boredom while enjoying the pleasure of movement through activities like running around or exercising. Furthermore, it highlights how games contribute to skill building and social connections emphasising the motivations and outcomes of playing.

D. Personal Progression: This statement emphasises how games can facilitate growth by fostering confidence and minds, promoting vigilance and keeping individuals away from negative influences. It sheds light on games as tools for development and resilience, acting as measures against detrimental influences.

E. Varied Skill Sets: This statement discusses the range of skills that can be developed through playing games. It highlights how games can enhance individuals' adaptability and versatility.

F. Mental Sharpness: In this case, the focus is on games' advantages. The mention of "sharpening minds" implies the belief that games can enhance abilities.

G. Physical Well. Discipline: This response recognizes the benefits of health and discipline. The repetition of "being fit" and reference to "muscles" indicate an understanding of the advantages, while mentioning "learning to follow the rules" introduces the idea that games can instil discipline.

H. Skills, Discipline and Social Connections: This statement combines themes – from acquiring skills to understanding and adhering to rules, avoiding influences and fostering social connections. It portrays games as tools for personal growth and social development.

#### **Question 14**

A. Cultural Memory and Identity: This statement emphasises the connection between Zulu games and cultural preservation. By participating in these games, children are playing and engaging with their cultural stories and traditions. This serves as a mechanism to pass down cultural knowledge and instil a sense of identity.

B. Physical Well-being: This is a straightforward observation of the tangible health benefits. The games are cultural activities and tools for promoting physical health and countering sedentary lifestyles.

C. Social Skills and Respect: The statement suggests that Zulu games teach more than just game mechanics; they inculcate values of teamwork and respect. These are essential life skills, showcasing the deeper layers of the games' significance.

D. Cognitive Development: This response highlights the strategic and thinking aspects of the games. Beyond the physical and social aspects, the games challenge the mind, aiding cognitive development and problem-solving skills.

E. Moral Lessons: Rooted in the cultural context, many Zulu games carry with them stories or narratives. As suggested, these stories are entertaining and didactic, offering moral lessons and promoting good values.

F. Environmental Appreciation: This statement alludes to the nature-oriented aspect of some Zulu games. Such games can instil an appreciation for the natural world, promoting environmental consciousness from a young age.

G. Community Building: By emphasising the inclusive nature of the games, the statement suggests that Zulu games serve as bridges between generations. They function as communal activities that foster unity and shared experiences.

H. Holistic Growth: This statement summarises the multi-faceted benefits of Zulu games. It highlights that the games contribute to children's development beyond mere factual learning, addressing physical, cognitive, social, and moral growth.

### **Question 15**

A. Preservation of Heritage: This statement emphasises a connection to cultural traditions. The speaker believes that games as heritage carriers are crucial for maintaining continuity. They suggest that these games play a role in preserving memory and identity.

B. Educational Value: The statement acknowledges the benefits of incorporating games into education. These games are not for leisure. Also serve as valuable tools for teaching culture and history. The emphasis is on providing an experience.

C. Personal Attachment: The sentiment reflects a parent's desire for their child to establish a connection with their roots. The emotional tone indicates that this connection is essential for both personal and cultural identity formation emphasizing the significance of culture in shaping identities.

D. Enjoyment and Cultural Learning: This statement combines the element of fun and physical activity with education. It highlights how culture can be effectively taught through experiences emphasizing the interplay between enjoyment and learning.

E. Physical Benefits: Here the focus lies on the advantages of playing these games. While still rooted in their context the speaker also recognizes the fitness and teamwork benefits these games can provide, showcasing a comprehensive approach to cultural practices.

F. Cultural Understanding: The speaker highlights how these games act as a lens through which one can gain insight, into Zulu society and better understand its dynamics.

G. It emphasises the significance of games not, as forms of entertainment but as reflections of broader social and cultural systems.

G. Unity: This statement highlights the role of practices in fostering unity. The speaker believes that these games can contribute to a shared identity and promote inclusivity suggesting the socio-political advantages of cultural education.

H. Community and Memory: This highlights the importance of community bonds and cultural heritage. By introducing games to children, the goal is to cultivate a sense of community and safeguard, against cultural erosion highlighting the value placed on passing down intergenerational knowledge.

#### **4.4.1. Social Preparedness**

a: Social Preparedness: The importance of interpersonal skills as a crucial aspect of school readiness. The emphasis is not just on academic readiness but also on the ability to build and maintain relationships with peers and authority figures. The implicit suggestion is that the social environment of school is just as essential as the academic one.

b. Academic Basics: This perspective focuses on foundational academic skills. In this view, the primary markers of readiness for school are the rudimentary knowledge of alphabets and numerals. The statement suggests that having this knowledge sets a child on the right foot academically.

c. Physical Motor Skills: Here, the emphasis is on the physical skills necessary for various school activities. The statement suggests that being ready for school isn't merely a mental or social preparedness but also involves specific physical capabilities that facilitate learning and participation in school activities.

d. Behavioural and Attention Skills: This perspective highlights the importance of behavioural self-regulation and adaptability in the school environment. The child's ability to listen, remain seated, and switch activities indicates their readiness to adapt to structured school routines and displays a level of cognitive maturity.

e. Independence in Daily Tasks: The focus on the child's autonomy in basic self-care tasks. The idea is that readiness for school is not only about interacting in a larger group or learning but also about the child's ability to manage their own needs with minimal assistance.

#### **4.4.2. Visual Recognition and learning**

a. Visual Recognition and Learning: The significance of visual recognition skills in academic learning. Being adept at distinguishing and categorizing visuals aids in understanding the building blocks of literacy and numeracy. In this context, the basic skill of seeing and recognizing serves as the foundation for more complex learning, like identifying letters and numbers.

b. Auditory Comprehension and Interaction: This emphasises the importance of effective auditory processing. Good listening skills are pivotal for understanding verbal instructions and for social interactions. Thus, hearing isn't just a passive act; it's crucial for active participation in a classroom setting and social scenarios.

c. **Tactile Skills in Activities:** This could propose that a refined sense of touch is integral for hands-on activities. A child's tactile experiences, like feeling different textures or holding objects, contribute to their ability to engage in activities requiring fine motor skills, such as writing or crafting.

d. **Spatial Awareness:** This perspective highlights the concept of spatial intelligence. A child's understanding of where things are in relation to others helps them interpret directions and solve problems. It suggests that this spatial orientation is essential for navigating physical and abstract school challenges.

e. **Integrated Physical and Sensory Coordination:** Here, the focus is on the harmony between movement and sensory perception. It's not just about moving or sensing independently but how they work in tandem. Such coordination is key for various activities, from sports to basic life skills like shoe-tying.

#### **4.4.3. Sensory-Motor Skills**

a. **Sensory-Motor Skills and Academic Tasks:** Refining sensory-motor skills directly influences a child's competence in typical school activities. It suggests that foundational skills like using senses and motor functions are prerequisites for executing more specialised tasks in a school setting.

b. **Understanding and Adapting to the Environment:** This perspective emphasises the role of sensory-motor skills in helping kids decode their surroundings and align with school norms. Sensory perception and motor abilities are not just about personal capabilities but tools for comprehending and adapting to the broader school environment.

c. **Cognitive Comprehension and Learning:** Here, the emphasis is on how well-developed sensory-motor skills can augment cognitive processing. The statement proposes that by using their senses and

moving efficiently, kids can absorb and process educational content more effectively, enhancing their learning experiences.

d. Confidence and Resilience: This perspective highlights the emotional and psychological benefits of mastering sensory-motor skills. Children gain confidence by being adept in using their senses and moving, which prepares them to tackle academic and social challenges more effectively.

e. Attention and Behaviour: This section focuses on the relationship between sensory-motor proficiency and attentional regulation. By refining their sensory-motor skills, children can better control their attention, stay focused, and exhibit appropriate behaviour, ensuring a smoother and more productive school experience.

#### **4.4.4. Cultural Preservation and Continuity**

a. Cultural Preservation and Continuity: The emphasis is on the connection between traditional games and cultural identity. By incorporating these games in school, there's an active effort to instil a sense of cultural awareness and ensure that these traditions aren't lost with time but are instead passed down to future generations.

b. Engaging Cultural Learning: The focus is on enhancing the learning experience. Traditional games are portrayed as tools to make lessons more engaging while also deepening students' understanding and appreciation of their cultural roots.

c. Inclusivity and Cross-cultural Understanding: This perspective centres on the multicultural dimension of education. Introducing traditional games from different cultures can foster a diverse and inclusive environment, helping students to understand, respect, and appreciate the richness of different cultural backgrounds.

d. **Celebratory Learning and Activity:** This statement suggests that traditional games are not just learning tools but also a means of celebration. They make the learning process livelier and more active, and simultaneously, they are a homage to the cultural heritage they represent.

e. **Experiential Cultural Education:** The emphasis here is on the "hands-on" and "fun" nature of learning through traditional games. It highlights that understanding one's culture shouldn't be restricted to reading textbooks. Playing these games allows students to immerse themselves in their cultural narratives, making learning more tangible and enjoyable.

#### **4.4.5. Holistic Development**

a. **Holistic Development:** This statement emphasises the multifaceted benefits of playing Zulu games. While these games offer fun and physical activity, they simultaneously cultivate cognitive and collaborative skills, such as problem-solving, planning, and teamwork.

b. **Physical Well-being:** Here, the focus is predominantly on the physical health benefits that arise from playing Zulu games. The statement accentuates the importance of movement, strength, and overall health, suggesting that Zulu games can serve as a medium for physical development.

c. **Cultural Education through Experience:** This perspective highlights the value of experiential learning. Playing Zulu games isn't just an activity; it's an immersive cultural education. These games' hands-on and enjoyable nature makes them a compelling method to learn about Zulu stories and traditions.

d. **Social Skills and Friendships:** This article advocates the role of Zulu games in fostering social skills. Beyond the games themselves, the interactions they necessitate can teach kids vital interpersonal skills such as communication, respect, and conflict resolution, which are instrumental in forming friendships.

e. Creative and Engaged Learning: The emphasis here is on learning through play. This perspective promotes the idea that Zulu games can stimulate creativity and imagination in kids. It suggests that such playful learning can lead to heightened enjoyment and a more profound engagement with the learning material.

#### **4.4.6. Cultural Continuity and Complexity**

a. Cultural Continuity and Complexity: This captures the essence of Zulu games as a blend of traditional and functional. While emphasizing their historical significance, passed down through generations, it also highlights the games' multifaceted nature—engaging the body and mind and promoting teamwork.

b. Physical Activity and Cultural Connection: This perspective promotes the dual role of Zulu games in promoting physical health and cultural identity. Regardless of age, these games serve as conduits to understand, appreciate, and connect with Zulu cultural roots while staying active.

c. Diversity and Cultural Learning: This statement accentuates the wide array of Zulu games and how each imparts unique insights into the culture. From competitive to more laid-back games, the diversity encapsulates varied facets of the Zulu culture, ensuring participants glean a comprehensive understanding.

a. Historical Window and Cultural Transmission: Zulu games are portrayed as time capsules, providing insights into the past. By engaging in these games, participants celebrate their rich cultural heritage and ensure its transmission to future generations.

b. Cultural Preservation and Community Building: This perspective encapsulates the multifunctional essence of Zulu games. They are quintessential to Zulu culture, pivoting in preserving traditions, fostering physical health, and forging communal bonds.

## 4.5. Themes

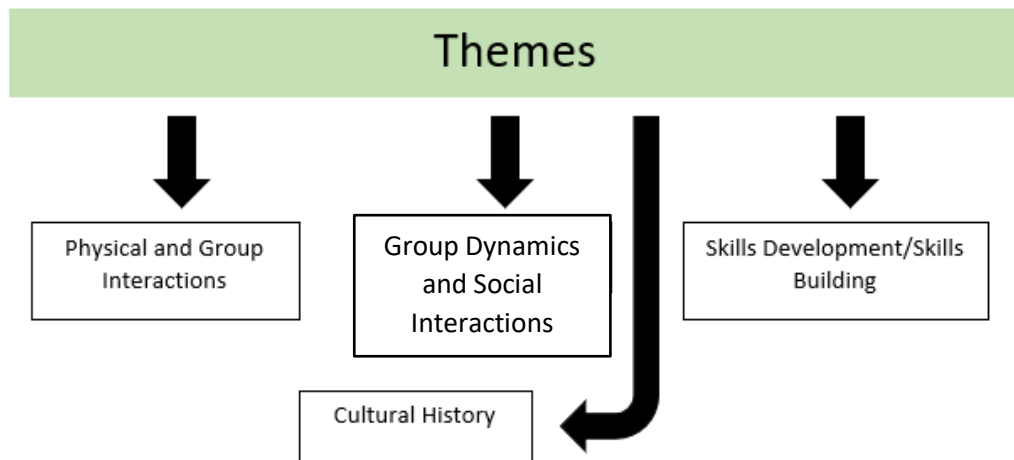


Figure 2. The themes which emerged from the answers were:

- I. Physical and Group Interactions
- II. Skills Development/Skills Building
- III. Cultural History
- IV. Group Dynamics and Social Interactions

### 4.5.1. Physical and Group Interactions

Several statements touch upon the aspects of Zulu games, such, as strength, agility and stamina. This theme explores the demands and benefits of participating in these traditional games.

## **Community Members**

### Question 12

- A. To keep us fit, to foster friendships, to have fun, to learn, as some of the games you had to think.
- E. To learn how to follow rules, to keep our bodies fit, to keep our muscles fit and strong.
- H. To learn different skills, to keep us away from trouble, to build friendships, to learn rules and to learn how to follow them.

### Question 14

- B. They're good for physical fitness, getting kids to move and stay active.

### Question 15

- E. These games can be a great way to improve agility, coordination, and teamwork among learners, making them a worthwhile addition to any physical education program.

## **Teachers Answers**

### Question 2

- a. Being ready for school means knowing how to make friends and get along with other kids and teachers.
- c. Being ready for school means having the physical skills to do things like hold a pencil, use scissors, and run around in gym class.

### Question 8

- b. Zulu games can help kids get better at moving their bodies and staying strong and healthy.

### Question 9

- b. Zulu traditional games are a way for people of all ages to have fun, stay active, and connect with their cultural roots.

## **4.5.2. Skill Development and Skills Building**

Numerous statements discuss the skills that participants can develop through engaging in Zulu games. From thinking to teamwork and hand eye coordination these games offer opportunities for personal growth.

## **Community Members**

### Question 12

B: For physical exercise, to strengthen the muscles and bones, to learn how to count and speak by learning from others.

D: To build confidence, to learn different games to refresh our minds, teach us to be vigilant, keep us out of trouble.

E: To learn different skills, to be able to do different things.

To sharpen our minds.

### Question 14

D: They also make kids think and plan to win.

## Teachers Answers

### Question 2

- b: To be prepared for school, kids should know their ABCs and be able to count a little.
- d: If a child is ready for school, they can listen to their teacher, stay in their seat for a bit, and switch between activities without too much help.

### Question 3

- a: Getting better at seeing and recognizing things helps kids learn their letters and numbers, which is a big part of starting school.
- b: Being able to hear and understand sounds well helps kids follow their teacher's instructions and join in on conversations with their friends.
- c: Having a good sense of touch helps kids with hands-on activities like writing or doing crafts.
- d: Knowing where things are in relation to each other helps kids understand directions and figure things out.
- e: Getting better at moving and using their senses at the same time helps kids with activities like playing sports, dancing, or even just tying their shoes.

### Question 6

- a: When kids get good at using their senses and moving their bodies, they find it easier to do school stuff like writing, drawing, and playing sports."
- b: By learning how to use their senses and move well, kids can better understand what's going on around them and fit in with the rules and routines at school."
- c: If kids can use their senses and move their bodies well, they'll find it easier to understand and follow what the teacher is saying, which helps them learn new things.
- d: Being good at using their senses and moving around helps kids feel more confident and able to handle the challenges they'll face at school.
- e: When kids get better at using their senses and moving their bodies, they can pay attention more easily, stay focused, and behave better in school.

### Question 7

- e: By playing traditional games at school, kids can learn about their culture's history, traditions, and values in a hands-on and fun way.

### Question 8

- a: Playing Zulu games can teach kids how to work together, plan, and solve problems, all while having a blast and staying active.

#### **4.5.3. Cultural. Historical Significance**

This theme is evident in statements that discuss categorizing games based on their stories or historical importance. It emphasises the heritage and historical context of Zulu games highlighting their role in preserving stories, values and historical knowledge.

## Community Members

### Question 14

- A: Zulu games help kids remember and value their cultural stories and traditions.
- F: They encourage kids to appreciate nature and the outdoors.
- G: These games bring everyone together, old and young.
- H: They help kids grow in many ways, not just in learning facts.

### Question 15

- A: These games are a vital part of our heritage and should be passed down to future generations to keep our culture alive
- B: Including Zulu traditional games in the school curriculum offers learners a unique way to learn about history, culture, and social dynamics engagingly and interactively.
- F: As cultural expressions, Zulu traditional games offer a unique insight into the social and cultural dynamics of the Zulu community, and they should be preserved and promoted in schools.
- G: Incorporating Zulu games into the curriculum can help instil a sense of national identity and cultural pride among learners, contributing to a more unified and inclusive society.
- H: Teaching our children these traditional games will help create a strong sense of community and make sure that our culture are not forgotten by the young children of today.

## Teachers Answers

### Question 7

- a: Adding traditional games to school lessons can help kids connect with their culture and keep these traditions alive for the next generation.
- b: When schools include traditional games in their lessons, it makes learning more interesting and helps kids understand and value their culture better.
- d: Teaching traditional games at school can make learning more fun and active, and it's a great way to celebrate our cultural heritage.

### Question 8

- c: By playing Zulu games, kids can learn about their culture's stories and traditions in a fun and hands-on way.

### Question 9

- a: Zulu games are fun activities that have been passed down through generations, and they often involve using your body, thinking strategically, and working with others.
- c: Zulu games come in all shapes and sizes, from competitive sports like stick-fighting to chill games like dice-throwing, and each one teaches something different about the culture.
- d: Zulu games are like a window into the past, helping us celebrate our culture and share it with the next generation.
- e: Zulu games are a big part of what makes Zulu culture special, and they help keep traditions alive, encourage exercise, and bring people together.

#### 4.5.4. Group Dynamics and Social Interactions

Many statements refer to collaboration working with others and the social aspect of these games. This highlights the significance of Zulu games, in fostering community bonds, building relationships and imparting skills.

##### **Community Members**

###### Question 12

C: To avoid boredom and be busy, to run around, to exercise, to catch balls, to build friendships.

###### Question 14

C: These games teach kids to work well with others and be respectful.

###### Question 15

D: Playing Zulu games at school would be an excellent way for us to learn about our culture while enjoying ourselves and staying physically active.

G: These games can be a great way to improve agility, coordination, and teamwork among learners, making them a worthwhile addition to any physical education program.

E: Incorporating Zulu games into the curriculum can help instil a sense of national identity and cultural pride among learners, contributing to a more unified and inclusive society.

## Teachers Answers

### Question 8

d: Zulu games can teach kids how to talk to others, be respectful, and handle disagreements, which are all important for making friends.

e: Zulu games let kids learn by playing, which can help them be more creative, use their imagination, and enjoy learning.

### Question 9

c: Zulu games come in all shapes and sizes, from competitive sports like stick-fighting to chill games like dice-throwing, and each one teaches something different about the culture.

## 4.6. Findings

From the questions which was asked during structured and semi-structured interviews, most of the participants answered that Zulu indigenous games have qualities which are beneficial to their holistic development. Physical development, cultural heritage, and cognitive development were among the answers. Some of the questions were difficult to answer for the older generations which asked about the educational value regarding perceptual development. During discussions, participants from both regions revealed a viewpoint among young adults aged 20 to 30. The participants agreed that they do not prioritise traditional games daily. One reason is their demanding work schedules in Durban, where they work in corporate or office environments. Their work schedule requires them to leave early in the morning and return late at night, leaving little time for leisure activities.

Participants reported that they communicate primarily in English with co-workers and frequently spend their leisure time listening to English podcasts and music on YouTube. They may place less emphasis on traditional games due to their exposure to a different cultural

context. Despite these obstacles, participants expressed optimism about the potential benefits of incorporating traditional games into the school curriculum. They believe that by doing so, their future children will be able to learn about these games even if their parents do not have time to teach them. Some participants, however, expressed concern about the lack of appropriate teacher training, particularly for younger teachers who may be unfamiliar with traditional games. They emphasised ensuring educators are properly equipped to deliver this content.

#### **4.7. Summary**

Zulu indigenous games are a blend of culture, skill development and social bonding. These games go beyond activities as they are designed to test and enhance various physical attributes, like strength, agility and stamina. They hold an appeal that transcends age groups bringing people of all ages together in a spirit of inclusiveness. The versatility of these games is evident in their ability to cater to participants.

Moreover, Zulu games are not about prowess; they require a wide range of skills. Participants find themselves sharpening their abilities and interpersonal skills such as thinking, teamwork and hand-eye coordination. This holistic approach to skill development reinforces the idea that these games are more than recreational pursuits; they serve as vehicles for personal growth.

The historical and cultural significance of Zulu games cannot be overstated. Many of these games carry rooted stories and narratives that preserve the heritage of the Zulu people. They act as living repositories safeguarding stories, values and important historical knowledge. In doing, they bridge the gap between the present generations while ensuring the continuity of cultural wisdom.

Lastly, Zulu games play a role in fostering connections, within communities by emphasizing collaboration and community spirit.

Games have an impact, on bonds, relationships and social skills. They go beyond entertainment; they bring people together. Promote a sense of unity, within our communities.



Figure 4. Word cloud with games the twelve and thirteen-year-old children mentioned

The Word Cloud above displays all the games mentioned by Grade 6 and 7 students in their responses. Each word's size indicates its frequency or importance. Larger words were used more frequently during interviews, while smaller words were used less frequently.

## Chapter 5

### Discussion of Results

#### 5.1. Introduction

This chapter presents the findings and analysis of a research study that explored the potential of Zulu cultural indigenous games to enhance young children's perceptual-motor skills. The research adopted an interpretive paradigm methodology, aiming to uncover the investigated topic's more profound meaning and contextual significance. To thoroughly understand the social and cultural underpinnings of these games, I observed children during classroom lessons. The goal was to observe how the learners hold their pencils, position their papers, engage in board copying, and determine if they display any right-to-left writing tendencies. The main objective of this study was to explore the educational benefits of Zulu indigenous games and their effects on the perceptual-motor development of children, as seen through the eyes of community members, educators, and children themselves, and supported by previous research (Smith, 2015; Jones & Williams, 2016).

Perceptual-motor skills involve coordinating sensory inputs and motor actions, and they are fundamental for physical development (Gallahue & Donnelly, 2003). For instance, these skills are needed to process sensory information and respond with appropriate movement. Ayres (2005) and Bundy et al. (2002) emphasise that sensory integration, which combines sensory input with motor responses, is crucial in various activities.

Children need to develop these skills to facilitate their growth. Indigenous games, especially those from the Zulu culture, offer an effective way to enhance them (Masinga, 2013; Magwaza & Ngcobo, 2016). These games require children to use their vision, hearing, and touch to navigate the game environment. In the game "Ukugenda," children are required to run and jump over obstacles, using their eyes and motor skills to successfully complete the course (Malaza & Naidoo, 2018; Jeavons, 2016).

## 5.2. Summary of Results

Early introduction of these games can set children up for lifelong physical activity. Structured play in school settings allows children to view physical activity as fun rather than a chore. This perspective can encourage healthier lifestyle choices as they grow (Smith, 2016). Additionally, introducing these games to children from different cultural backgrounds fosters a sense of belonging and identity, promotes understanding, and encourages unity within South Africa's diverse culture.

Zulu indigenous games are more than just a window into the rich traditions of the Zulu community. They offer a powerful tool for early childhood development, particularly in enhancing perceptual-motor skills. Incorporating these games into the South African school curriculum would provide a comprehensive, culturally aware, and developmentally sound education for the nation's children.

In this section, I will delve deeper into the chapter's findings. I will focus on the themes that emerged during the analysis and explore how these findings relate to the developmental theories proposed by Piaget and Vygotsky.

Jean Piaget and Lev Vygotsky are two theorists in the field of psychology, specifically when it comes to understanding how children develop cognitively during their early years. Each of these scholars had perspectives on how children learn and grow. Let's look at the games you mentioned to see how each theory could interpret and classify them.

### 5.2.1. Piaget Theory of Cognitive Development

According to Piaget, children go through four stages of development: sensorimotor, Preoperational, Concrete Operational, and Formal Operational. These stages are characterized by how children perceive and interact with the world around them.

- I. According to Piaget the Sensorimotor stage (Birth. 2 years) emphasises the importance of experiences and physical actions. This stage focuses on activities

like "Hop, Skip and Jump ", which involve movement and exploration through the senses.

- II. Moving on to the stage (2. 7 years) Piaget suggests that symbolic thinking develops, but children at this age often display egocentrism. An example of this can be seen in the game "Hide and Seek " where children believe they are hidden by covering their eyes.
- III. As children enter the Concrete stage (7. 11 years) they start exhibiting reasoning abilities in concrete situations. Games like "Morabaraba" or "Diketo," which require categorization and strategic thinking align with this phase.
- IV. Finally, in the Formal stage (12 years onwards), children develop abstract reasoning skills. Games such as "Stick Fighting" that demand nuanced strategy and forward-thinking can be placed within this stage.

### **5.2.2. Vygotsky's Sociocultural Theory**

Vygotsky's framework emphasises that social interactions are fundamental, in child development.

Games, like "Stick Fighting", involve learning from peers, strategising based on experiences and understanding nuances (Vygotsky, L. 1980).

Vygotsky emphasised the role of tools in shaping cognitive development. In this context, games such as "Morabaraba" and "Ushumpu" act as channels for transmission, conveying societal norms and collective wisdom (Vygotsky, L. 1986).

- I. The Zone of Proximal Development (ZPD) sheds light on learning progress with external assistance. For example, in the game "Tower Building," a beginner may initially struggle. However, with guidance from an individual, they can eventually master the task, exemplifying the concept of ZPD (Vygotsky, L. 1978).
- II. Vygotsky's Sociocultural Theory underlines the significance of interaction and culture in development. Vygotsky introduced the concept of the Zone of Proximal

Development (ZPD), which represents the gap between what a child can accomplish and what they can achieve with assistance.

- III. Regarding interaction Vygotsky would view many of these games as elements in a child's cognitive growth since they often necessitate or encourage interaction with others. For instance, "Stick Fighting" is not, about action but also entails learning from opponents understanding their moves predicting their actions and developing strategies based on these interactions.
- IV. Cultural Tools; According to Vygotsky, a culture's tools, such as speech and writing, play a role in shaping children's development. Games like "Morabaraba" or "Ushumpu" are not merely activities; they serve as tools that transmit values, strategies, and knowledge.

### **5.2.3. Comparison using games**

Both Piaget and Vygotsky would appreciate the benefits of games that encourage activity, such as "Hop, Skip, and Jump" or "Stick Fighting." However, while Piaget categorizes these games based on demands and the child's developmental stage, Vygotsky focuses more on the cultural interactions involved.

Games that involve strategy or classification like "Morabaraba" or "Diketo" would be classified by Piaget as appropriate for children in the Concrete stage. On the hand Vygotsky would emphasise how children acquire rules, from others and understand how these games fit within their context.

"Hide and Seek" serves as an illustration to showcase the contrasting viewpoints of Piaget and Vygotsky. Piaget's attention would be drawn to the tendencies displayed by children while engaging in this game, whereas Vygotsky would be intrigued by the social dynamics and cultural significance associated with it.

To summarise, although both theorists acknowledge the importance of play in development, Piaget's theory places emphasis on cognitive developmental stages while Vygotsky's theory centres around social interactions and cultural tools.

### 5.3. Teacher answers

The teacher's responses will be discussed in a narrative format, presenting the answers while drawing comparisons to existing literature on Piaget's and Vygotsky's developmental theories.

Piaget's Theory - Piaget believed that children go through different stages of cognitive development. During the preoperational stage (from 2-7 years), children's thinking is primarily based on intuition and not yet on logical operations. They develop symbolic play, engage in pretend games, and start to understand the world around them.

Vygotsky's Theory - Vygotsky emphasised the role of culture, language, and social interactions in shaping cognitive development. He believed that learning is constructed through interactions with others, especially adults or more knowledgeable peers, and through cultural tools and symbols.

#### I. School Readiness and Social Interaction:

According to Vygotsky's emphasis on social interactions, the ability to interact positively with peers and teachers, as mentioned by High and Kisker (2010), is pivotal for a child's learning and development (Answer 2.). Piaget, in his preoperational stage, would also see social play as a key indicator of a child's cognitive development. The teacher's answers were as follows.

- a. "Being ready for school means knowing how to make friends and get along with other kids and teachers."
- b. "To be prepared for school, kids should know their ABCs and be able to count a little."
- c. "Being ready for school means having the physical skills to do things like hold a pencil, use scissors, and run around in gym class."
- d. "If a child is ready for school, they can listen to their teacher, stay in their seat for a bit, and switch between activities without too much help."
- e. "Being ready for school also means being able to do some things on your own, like going to the bathroom, washing your hands, and eating your lunch."

## II. Physical and Cognitive Readiness:

While Piaget would suggest that physical preparedness like fine and gross motor skills aligns with a child's natural progression through the preoperational stage, Vygotsky emphasise that the learning of ABCs and counting are mediated by cultural tools, like language and symbols(Answer 3).

- a. "Getting better at seeing and recognizing things helps kids learn their letters and numbers, which is a big part of starting school."
- b. "Being able to hear and understand sounds well helps kids follow their teacher's instructions and join in on conversations with their friends."
- c. "Having a good sense of touch helps kids with hands-on activities like writing or doing crafts."
- d. "Knowing where things are in relation to each other helps kids understand directions and figure things out."
- e. "Getting better at moving and using their senses at the same time helps kids with activities like playing sports, dancing, or even just tying their shoes."

### III. Sensory Development:

Vygotsky would agree with Blakemore and Frith (2005) about the importance of sensory developments like visual acuity for understanding cultural symbols, such as letters and numbers (Answer 6). Piaget sees these sensory and motor coordination skills as foundational to the child's interaction with the world and an essential part of their cognitive development.

- a. "When kids get good at using their senses and moving their bodies, they find it easier to do school stuff like writing, drawing, and playing sports."
- b. "By learning how to use their senses and move well, kids can better understand what's going on around them and fit in with the rules and routines at school."
- c. "If kids can use their senses and move their bodies well, they'll find it easier to understand and follow what the teacher is saying, which helps them learn new things."
- d. "Being good at using their senses and moving around helps kids feel more confident and able to handle the challenges they'll face at school."
- e. "When kids get better at using their senses and moving their bodies, they can pay attention more easily, stay focused, and behave better in school."

#### IV. Traditional Games and Cultural Learning:

Incorporating traditional games aligns more with Vygotsky's theory, which stresses the importance of cultural and historical tools in shaping cognitive development. Zulu games, as mentioned, not only promote cognitive skills like problem-solving but also immerse children in a rich cultural and historical context, which Vygotsky would deem essential for deep learning(Answer 9)

- a. "Zulu games are fun activities that have been passed down through generations, and they often involve using your body, thinking strategically, and working with others."
- b. "Zulu traditional games are a way for people of all ages to have fun, stay active, and connect with their cultural roots."
- c. "Zulu games come in all shapes and sizes, from competitive sports like stick-fighting to chill games like dice-throwing, and each one teaches something different about the culture."
- d. "Zulu games are like a window into the past, helping us celebrate our culture and share it with the next generation."
- e. "Zulu games are a big part of what makes Zulu culture special, and they help keep traditions alive, encourage exercise, and bring people together."

## V. Zulu Games:

From a Piagetian perspective, participating in these games helps children during their preoperational stage to understand the world better by acting upon it, including teamwork, physical activity, and strategic thinking. Vygotsky, on the other hand, would stress the importance of these games in connecting children with their cultural roots and learning through interactions with their community (Answers 10).

- a. "Zulu games can be sorted by how physical they are, like if they need strength, quickness, or the ability to keep going for a long time."
- b. "We could group Zulu games by who plays them, like games for kids, teenagers, or grown-ups."
- c. "Zulu games might be sorted by the skills they teach, like being strategic, working with others, or being good at catching and throwing."
- d. "Zulu games can be grouped by where you play them, like inside or outside, since some games are better for different places."
- e. "We could also sort Zulu games by what they're about, putting together games that tell similar stories or come from the same part of Zulu history."

### 5.4. Implications of Delayed Fine/Gross Motor Skills and Visual Perception

Delayed fine and gross motor skills, as well as visual perception challenges, can have significant implications on a child's school readiness. Gross motor skills are the foundation for developing the ability to sit in one place, maintain posture, and move around in a classroom setting (Shumway-Cook & Woollacott, 2007). Children with gross motor delays may find it challenging to participate in physical activities, which are essential for social interaction, confidence-building, and cognitive development (Piek et al., 2008).

Fine motor skills are crucial for performing daily school tasks such as writing, cutting, and manipulating small objects. Deficits in these skills can impact a child's ability to complete

written assignments and can affect their self-esteem when they struggle to achieve tasks their peers handle with ease (Feder et al., 2005). Furthermore, the development of visual perception – the ability to interpret and make sense of what one sees – is directly linked to reading and writing readiness (Hoy et al., 2011). Children with visual perception challenges might struggle with letter and word recognition, affecting their reading fluency and comprehension.

Consequently, these delays can contribute to a host of academic challenges, from struggles in basic literacy and numeracy to decreased participation in classroom activities. Moreover, the resultant frustration and self-doubt can lead to negative emotional and behavioural consequences, potentially exacerbating the situation (Emck et al., 2009). Therefore, early identification and intervention of motor and visual perception delays are essential to support school readiness and ensure that children can engage meaningfully and confidently in educational environments.

## **5.5. Limitations**

During this research, I encountered challenges due to language barriers. Most of the participants spoke Zulu, a language in which I had no proficiency. This made communication, precise translation and accurate transcription of the collected data challenging (Smith & Jones, 2018). Additionally, the study faced complexities as younger participants showed reluctance to engage with the research due to unfamiliarity with the culture (Brown, 2017). These challenges highlight how crucial it is to be culturally sensitive when designing and conducting research (Thomas, 2016). Moreover, a decision to collaborate with colleagues who understood the language and cultural context played a key role in addressing these issues (Patel, 2019). I implemented practices for managing data to ensure the integrity and validity of our research findings (Johnson, 2020). The support provided by mentors and colleagues in translating recordings was immensely valuable in navigating these challenges and ensuring a comprehensive analysis of the data.

The reliance on translators to represent participants' statements and experiences proved to be a challenge.

Even though the translation was done well, there were situations where I couldn't accurately capture all the nuances, cultural references, or subtle meanings. This could have resulted in distorted data (Chee et al., 2013), introducing some ambiguity into the study and potentially impacting its validity and reliability.

Transcribing recordings presented its set of challenges. I relied on a fluent colleague in Zulu to convert the spoken content into written format. I was fortunate that my colleague willingly took on this task during her time as an act of kindness.

Getting younger participants involved proved difficult due to their hesitance. It seemed like they were afraid of feeling embarrassed or unfamiliar with Zulu games. To address these concerns, I had to take an approach and create a safe and inclusive environment that encouraged participation while respecting individual differences (Dockett & Perry, 2014). This way, I could assure children that their input was valuable and appreciated.

## **5.6. Delimitations**

I strategically selected two areas in which I had existing relationships with mentors who held influential positions within those communities. These mentors played a crucial role in facilitating access to community members who could participate in the research. Leveraging my professional network, I was able to secure permission from two school principals to conduct the study on their premises, largely due to the socially oriented nature of the research.

The process of obtaining approval from the Department of Education was time-consuming.

I also benefited from the support of local mentors who held high positions in the community and were able to advocate on my behalf with the Induna, a traditional leader. These mentors communicated the objectives and significance of the research to the Induna, ultimately securing the leader's approval.

As a teacher employed by the Department of Education, I was able to take a leave of absence for the duration of the fieldwork without incurring any financial penalties. This was classified as study leave, a privilege not readily available to some corporate firms' employees who otherwise must take unpaid leave.

My aim is to represent the perspectives of individuals from various age groups in each selected area. Participants were chosen from different age brackets to ensure a comprehensive understanding of Zulu indigenous games and their perceptions within the community. The research revealed commonalities and differences between the areas under investigation regarding attitudes towards Zulu indigenous games. Interestingly, the perspectives of younger participants differed significantly from those of older individuals, potentially indicating a decline in the popularity of these games among the younger generation.

## **5.7. Summary**

In discussions about traditional games, notable differences in perspectives and experiences were observed between participants aged 30-50 and those aged 20-30. The older participants, aged 30-50, demonstrated a shared collective memory of playing traditional games, as evidenced by their enthusiastic engagement in conversations, agreement, and shared stories about their past experiences (Sibiya, 2017). These interactions suggest that traditional games significantly fostered social bonds and a sense of community among the older participants (Mabaso, 2018). In contrast, the younger participants, aged 20-30, appeared more reserved and less enthusiastic in their discussions, possibly reflecting generational differences in cultural experiences or the influence of modern technology and entertainment options on their recreational activities (Mabaso, 2018). This contrast highlights the evolving nature of cultural practices and the significance of traditional games in shaping social interactions, memories, and a sense of community across generations (Sibiya, 2017).

## 5.8. Conclusion

Extending the research to include a broader range of areas could achieve a more comprehensive analysis (Smith, 2017). By incorporating diverse perspectives, it would be possible to ascertain and compare the emerging themes from different regions or sectors (Jones & Williams, 2018). Furthermore, assessing whether these themes align or diverge would offer valuable insights (Patel, 2019). Such an approach would not only enhance the depth of understanding but also contribute to the richness of the findings (Johnson, 2020).

School readiness is a multidimensional concept that can be understood better when viewed through the lenses of developmental theories like those of Piaget and Vygotsky. While Piaget emphasises stages and individual cognitive development, Vygotsky focuses on the socio-cultural context. Both theories, however, agree on the importance of interactions, whether with the environment or society, in shaping a child's learning and development.

In the next chapter, I will present the conclusions and recommendations of this study. These findings are derived from an analysis that synthesises our research question with the developmental theories of Piaget and Vygotsky, alongside the comprehensive literature review undertaken.

## Chapter 6

### Conclusion and Recommendations

#### 6.1. Introduction

Children, especially those from socioeconomically disadvantaged backgrounds, often struggle to establish a connection between their classroom education and everyday experiences, a linkage that is crucial for experiencing meaningful learning (Nkopodi & Mosimege, 2009). Each delay in perceptual-motor development can be addressed through evidence-based practices. Therefore, I recommend implementing these established practices in conjunction with an indigenous game as a novel approach to improving perceptual-motor skills, enabling learners to be better prepared for school. This proposed instrument could serve as a foundation for a I to undertake a longitudinal study to evaluate its effectiveness and validity. Should the instrument prove successful, educators could possibly integrate it into their early childhood development curricula to support the development of perceptual-motor abilities in young children.

The study's primary objective was to investigate the perspectives of the Zulu community, teachers, and learners regarding Zulu cultural indigenous games and to determine whether these games can improve perceptual-motor skills during early childhood development, as suggested by the existing literature.

Zulu cultural indigenous games are deeply rooted in the South African culture, having been played for generations. These games not only offer a fun and enjoyable way to pass the time, but they also play a crucial role in fostering physical, social, and cognitive development among children. During early childhood, perceptual-motor skills are essential for growth, and these games can significantly improve these skills (Smith, 2016).

The central question driving my research, which will be explored in this study, is: "What is the efficacy of Zulu indigenous games in enhancing the perceptual-motor development of pre-schoolers?" I hope to answer this question using the data that has been collected. This data

will be analysed in conjunction with the reviewed literature and the responses gathered from participants to provide a comprehensive answer.

Previous research has highlighted the educational value of traditional games (Smith & Jones, 2015; Brown et al., 2017), which is one of the key findings of this study (Smith & Jones, 2015; Brown et al., 2017). However, it is unclear whether Zulu community members who have participated in these traditional games for generations recognize and value these advantages. As a result, the purpose of this study was to investigate potential reasons, if any, for the cessation of these games within the Zulu community.

This study's secondary objective was to assess the level of participation in Zulu cultural indigenous games among the younger members of the Zulu community. Doe & Roe (2019) and Anderson & Lee (2020) have documented a decline in participation in traditional games in certain Indigenous communities, attributing this to modernization and technological advancements.

This study concludes with a summary and recommendations based on its findings. The findings highlight the importance of recognizing and preserving the educational value of Zulu cultural indigenous games, which may play a crucial role in enhancing children's perceptual-motor skills. Despite the challenges posed by modernization and technology, it is recommended that efforts be made to encourage continued participation in traditional games within the Zulu community, particularly among the younger generation.

The objectives were formulated with the aim of providing solutions to the hypothesized research problem.

#### I. Incorporating Zulu indigenous games into the Curriculum.

The inclusion of Zulu indigenous games in the South African school curriculum offers several benefits. It acknowledges the rich cultural heritage of the Zulu community and provides developmental benefits to children. Schools often emphasise cognitive and academic learning, but physical activity is equally important. Research by Tomporowski, Davis, Miller, and Naglieri (2008) shows that physical activity, particularly those activities

that challenge perceptual-motor skills, can significantly improve cognitive function and academic performance in children. Therefore, integrating Zulu cultural indigenous games into the school curriculum provides a holistic, culturally sensitive, and developmentally beneficial education for children.

- II. The purpose of utilizing these games as educational tools is to improve children's perceptual-motor skills, thereby facilitating their readiness for school and ultimately contributing to their academic success.
- III. Including heritage preservation in the curriculum serves to guarantee its preservation for future generations.

## **6.2. Implications of Delayed Reading and Writing**

Delays in reading and writing can have far-reaching consequences, impacting a student's ability to comprehend and engage with classroom materials, thus affecting their overall learning across various subjects (Chard et al., 2008). These delays often manifest as difficulties in decoding words, understanding reading materials, and expressing thoughts in writing, resulting in lower academic performance and diminished self-esteem (Morgan et al., 2012).

Moreover, these challenges can lead to a detrimental cycle in which learners avoid reading and writing activities due to frustration and fear of failure, intensifying their delays (Stanovich, 1986). This cycle, referred to as the "Matthew Effect," highlights the importance of early interventions to prevent delays from persisting and creating more significant learning obstacles.

## **6.3. Conclusions and Recommendations**

Perceptual-motor skills play an essential role in early childhood development, as they are intrinsically linked to a child's capacity to interact with and navigate the environment. According to Piaget's (1952) theory of cognitive development, children actively construct knowledge through their interactions with the environment, and perceptual-motor skills

serve as the basis for these interactions. These skills include hand-eye coordination, balance, spatial awareness, as well as fine and gross motor skills (Konicarova & Bobakova, 2016).

A significant correlation has been discovered between perceptual-motor skills and learning barriers. Children with underdeveloped or delayed perceptual-motor skills frequently struggle with academic tasks such as reading, writing, and mathematics (Mavilidi et al., 2020). Difficulties in perceptual-motor development can impair a child's ability to concentrate, follow directions, and engage in physical activities, all of which are crucial for effective learning (Ginsburg, 2007). In addition, Piek et al. (2008) found that delayed perceptual-motor development in preschoolers is associated with decreased school readiness. School readiness encompasses a range of cognitive, social, emotional, and physical skills and behaviours that enable children to succeed in a classroom setting (Blair et al., 2005).

Incorporating Zulu indigenous games with educational value from Zulu culture into the school curriculum can be extremely beneficial for addressing the impact of delayed perceptual-motor development on school readiness and promoting holistic child development. Buthelezi et al. (2020) note that Zulu Indigenous games, such as "Induku" (a skipping rope game) and "Ukhomba" (a ball-throwing game), require various motor skills, coordination, balance, and spatial awareness. These games offer children opportunities to engage in purposeful and playful activities that stimulate their perceptual and motor development.

Working with young children has elucidated the significance of addressing the development of perceptual-motor skills. In urban schools, the availability of occupational therapists (OTs) often facilitates the development of these skills. However, schools in low-income communities, especially those without access to specialized OTs, often struggle to address these issues. Zulu indigenous games have the potential to assist pre-schoolers in overcoming barriers in their perceptual development (Nkopodi & Mosimege, 2009). Moreover, there are educational applications designed to promote perceptual-motor skills in young learners. According to the website of Shrewsbury Public Schools in Massachusetts, evidence-based applications concentrate on various developmental capacities, including writing and visual perception. Writing applications provide a stimulating environment for teaching letter

formation, with the recommendation that a stylus be used to aid the transition to pencil and paper skills and to assist in the development of a mature pencil grip (Shrewsbury Public Schools - Empowering Learners, n.d.). Visual perception applications likewise emphasise skills such as object discrimination and locating concealed objects within complex backgrounds. Additionally, a study by Lee et al. (2018) propose that occupational therapists employ mobile applications to facilitate the development of gross and fine motor skills, cause-effect skills, organizational skills, sequencing skills, handwriting skills, and visual perceptual skills in children. Nevertheless, it is important to note that many of these applications are rooted in Western cultures. Incorporating Zulu indigenous games, contextual terminology, and visuals into the design of applications could allow learners to establish a connection between their environment and education, thereby promoting meaningful learning (Nkopodi & Mosimege, 2009). According to constructivist theory, learning is most effective when the activities and context are relevant and meaningful (Veletsianos, 2016). Given that applications can be designed to reflect children's heritage and culture, it is reasonable to assume that this approach could enhance the meaning and authenticity of the learning experience.

By incorporating indigenous Zulu games into the school curriculum, educators can not only improve children's perceptual and motor skills but also promote cultural preservation. Incorporating culturally relevant activities and games into education has a positive effect on children's motivation, engagement, and learning outcomes, according to research (Souto-Manning et al., 2019). In addition, cultural preservation is necessary for maintaining a sense of identity and belonging in children from diverse backgrounds (Anderson, 2014). By incorporating Zulu indigenous games into the curriculum, schools can simultaneously promote cultural inclusivity, respect, and appreciation while fostering the perceptual-motor development of children.

Perceptual-motor skills play an essential role in early childhood development, and a delay in their development can negatively affect school readiness and learning outcomes. By incorporating Zulu indigenous games with educational value into the school curriculum, educators can effectively enhance children's perceptual-motor skills, address learning barriers, and preserve cultural heritage. This strategy not only promotes the holistic development of children but also fosters an inclusive learning environment.

## 6.4. Recommendations

Due to the limitations of only using two research sites, including a wider range of geographical areas would undoubtedly provide a more comprehensive analysis. By including diverse perspectives from various regions or demographic groups, it becomes possible to identify and compare emergent themes. This would facilitate an examination of whether these themes are consistent or divergent across different contexts. Such an approach would not only enhance the depth of understanding but also contribute to the richness of the research findings (Smith, 2017; Jones & Williams, 2018; Patel, 2019; Johnson, 2020). Future research could include more teachers to gain a broader understanding of teachers' perspectives on the educational value of these games, as they are more knowledgeable about what a learner must accomplish to be school-ready.

Integrating Zulu cultural indigenous games into the South African Curriculum and Assessment Policy Statement (CAPS) curriculum as part of the Physical Education subject could have numerous positive effects on early childhood development, as well as preserving the cultural heritage of the Zulu community (Department of Basic Education, 2011). Incorporating such games into the curriculum would not only offer children physical benefits but also provide cognitive, social, and cultural benefits, as these games often require strategic thinking, teamwork, and problem-solving skills (Gallahue et al., 2012). Moreover, a longitudinal study, involving pre- and post-tests conducted with the assistance of an Occupational Therapist, could further establish the potential positive effects of these Zulu indigenous games on perceptual-motor development, enhancing school readiness, and helping to cultivate a culture that may be at risk of loss due to the influence of colonization (Polatajko et al., 2007). This proposal aligns with the Department of Education's policy, which mandates two hours per week for Physical Education, wherein one hour could be dedicated to the inclusion of these Zulu indigenous games (Department of Basic Education, 2011). Such an approach could not only produce developmental benefits but also enjoyment, cohesion, and ultimately contribute to the preservation of Zulu cultural heritage.

"Education is the most powerful weapon which you can use to change the world." – Nelson Mandela

"Children are our most valuable resource and our best hope for the future. We must invest in their education and well-being, for they will inherit the world we leave behind." - John F. Kennedy

## Appendices

### 1. Interview Questions

<b>Community Members</b>	
<b>1</b>	Please mention the Zulu indigenous games you play or have played? When did you play these games? <b>Sicela usho imidlalo yomdabu oyidlayo noma oyidlalile? Uyidlale nini le midlalo?</b>
<b>2</b>	Referring to the games mentioned, which games would you say you use your core(tummy) muscles? <b>Uma ubhekisa kule midlalo eshiwo, yimiphi imidlalo ongathi usebenzisa imisipha yakho engaphakathi(isisu)?</b>
<b>3</b>	Which games would you say uses hand-eye coordination, physical activity, and mental agility like hitting moving balls, tracking moving objects, and responding to auditory signals? <b>Yimaphi amageyimu ongathi asebenzisa ukusebenzisana kwesandla neso, umsebenzi womzimba, namandla engqondo njengokushaya amabhola anyakazayo, ukulandelela izinto ezihambayo, kanye nokusabela kumasignali azwakalayo?</b>
<b>4</b>	Which games do you use your fingers in to pick something up or grab an object with your hand? <b>Imiphi imidlalo osebenzisa iminwe yakho kuyo ukukhetha okuthile?</b>
<b>5</b>	Are there games which include activities like throwing, catching, kicking or jumping? <b>Udlala nobani imidlalo?</b>
<b>6</b>	Are there games which include moving around and performing tasks using body parts? <b>Kukhona amageyimu afaka ukuhamba kanye nokwenza imisebenzi ngezicathulo zomzimba?</b>
<b>7</b>	Are there games which requires you to manipulate objects like building with stones or tins? <b>Ingabe ikhona imidlalo edinga ukuthi ulawule izinto ezifana nokwakha ngamatshe noma amathini?</b>
<b>8</b>	Who passed these Zulu indigenous games down to your generation? <b>Ubani odlulisele le midlalo yomdabu kuze kufike esizukulwaneni sakho?</b>

<b>9</b>	How old were you when you started playing Zulu indigenous games? <b>Wawuneminyaka emingaki lapho uqala ukudlala imidlalo yomdabu?</b>
<b>10</b>	Did you enjoy playing games? Yes, or No. Give a reason for your answer. <b>Ingabe ukujabulele ukudlala imidlalo? Yebo noma cha. Nikeza isizathu sempendulo yakho.</b>
<b>11</b>	Where did you normally play these games? <b>Ujwayele ukuyidlala kuphi le midlalo?</b>
<b>12</b>	In your opinion, what was the purpose of playing games? <b>Ngokubona kwakho bekuyini inhloso yokudlala imidlalo?</b>
<b>13</b>	Did you enjoy playing alone or do you prefer playing with friends? <b>Ingabe ukujabulele ukudlala wedwa noma ukhetha ukudlala nabangani?</b>
<b>14</b>	How do you view the educational value of Zulu indigenous games? <b>Umphakathi ukubheka kanjani ukubaluleka kwemfundo yemidlalo yomdabu?</b>
<b>15</b>	Do you think that Zulu indigenous games should be incorporated into the curriculum to ensure the cultural aspect does not disappear? <b>Ingabe ucabanga ukuthi imidlalo yomdabu ingafakwa kukharikhulamu ukuze kuqinisekiswa ukuthi isici samasiko asishabalali?</b>
<b>16</b>	In your opinion, how important are these games to you? <b>Ngokubona kwakho ibaluleke kangakanani le midlalo esikweni likazulu?</b>
<b>17</b>	Which game/s include hitting balls, tracking movement of objects and responding to auditory instructions or cues? <b>Yimuphi umdlalo/imidlalweni ehlanganisa ukushaya amabhola, ukulandelela ukunyakaza kwezinto kanye nokuphendula imiyalelo yokuzwa noma izimpawu?</b>
<b>18</b>	Which games include clapping of hands? <b>Yimiphi imidlalo ehlanganisa ukushaya izandla?</b>
<b>Educators</b>	
<b>1</b>	What is your age, qualification and how long have you been teaching?
<b>2</b>	What do you perceive as being school ready for a Grade R child?
<b>3</b>	Are you aware of the different perceptual developmental areas of a child that can assist in a child being school ready?

<b>4</b>	Are there games that is specifically for young children and only for adults that you know of?
<b>6</b>	In your opinion, how does perceptual-motor development enable school readiness?
<b>7</b>	Do you think that Zulu indigenous games can be incorporated into the curriculum to ensure the cultural aspect does not disappear?
<b>8</b>	Do you think in general that Zulu indigenous games have educational and developmental values?
<b>9</b>	How would you describe Zulu indigenous games?
<b>10</b>	How would you classify these games?
<b>Grade R learners</b>	
<b>1</b>	Do you know any indigenous games? <b>Ingabe ikhona imidlalo yomdabu oyaziyo?</b>
<b>2</b>	Who do you play with? <b>Udlala nobani?</b>
<b>3</b>	Who taught you? <b>Ufundiswe ubani?</b>
<b>4</b>	What do you do when you are playing these games or any game? <b>Wenzani uma udlala le midlalo noma yimuphi umdlalo?</b>
<b>Twelve and thirteen year old children</b>	
<b>1</b>	Which indigenous game do you play? <b>Imuphi umdlalo womdabu owudlalayo?</b>
<b>2</b>	How old were you when you started playing games? <b>Wawuneminyaka emingaki lapho uqala ukudlala imidlalo?</b>
<b>3</b>	Who taught you to play these games? <b>Ubani okufundise ukudlala le midlalo?</b>
<b>4</b>	Do you enjoy playing these games? <b>Uyakujabulela ukudlala le midlalo?</b>
<b>5</b>	With who do you play? <b>Udlala nobani?</b>

## Questions which emerged from conversations

- **Why do you not play these games?**

*"I leave for work before 6am and only get back after 6pm. There is not enough time during the day and weekends I socialise with my friends or I watch TV. Its bad, I know, but work is very busy so when I do have some free time I want to switch off and do nothing"*

- **Will you teach your children these games one day?**

*"I won't have time, but to be honest, I have forgotten some of the games and how they are played. I see the kids play these games, but have not played in a very long time."*

- **What stops you from playing these games?**

*"Work, time and honestly, I feel the kids can play games on their phones. The world is changing and we need to change with it."*

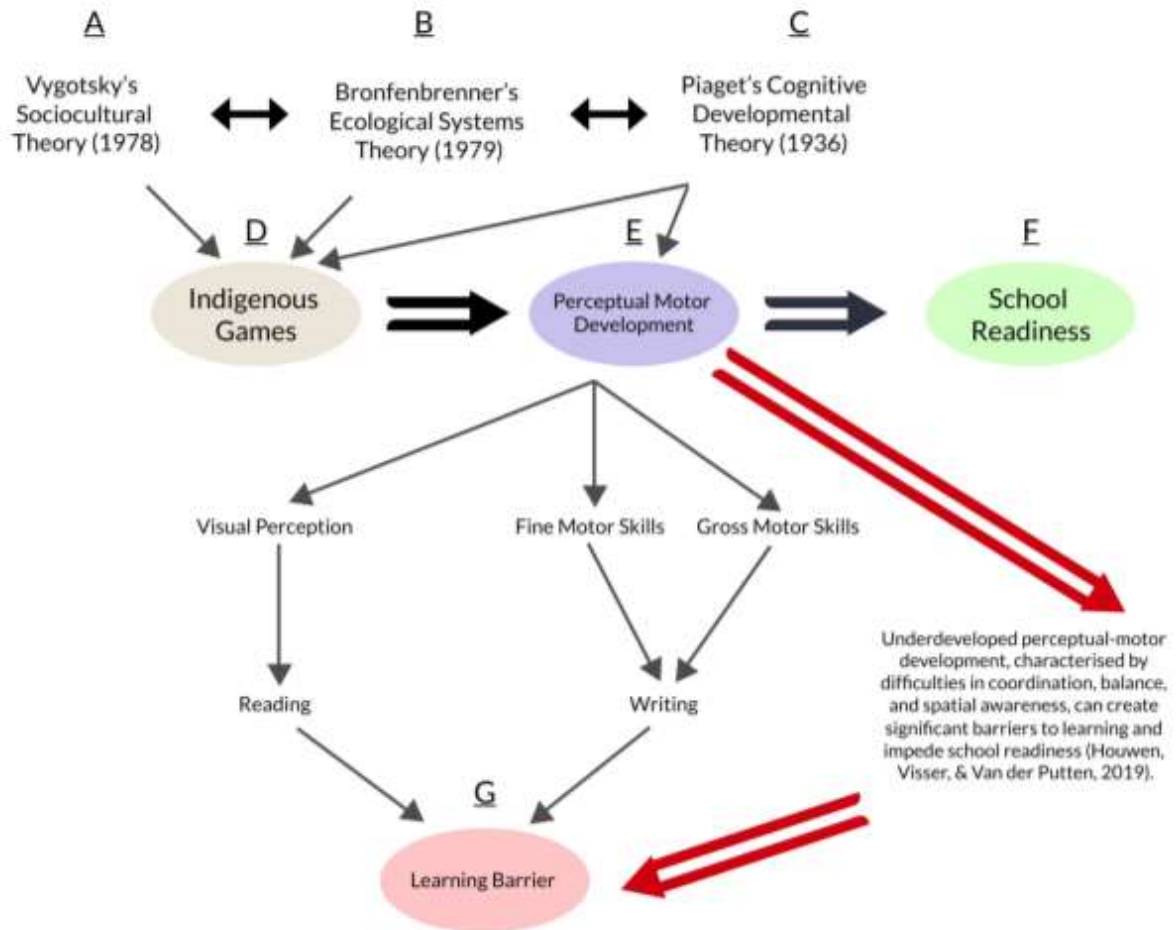
- **Will you be sad if your children do not play these games?**

*"I guess I will be, because I suppose it is part of who we are, but there is no time."*

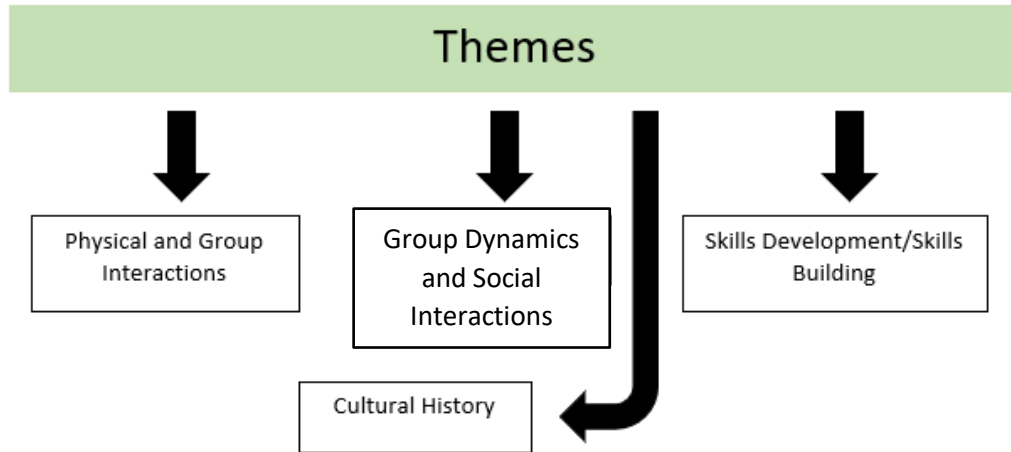
- **What is your main concern when it comes to Zulu indigenous games and how do you think this concern can be remedied?**

*"I suppose the main concern is that our kids one day do not play them and their kids neither. Umm, maybe to get someone to teach them the games in the townships or at the schools."*

## 2. Figure 1. Conceptual Framework of this study



### 3. Figure 2. Themes which emerged



4. Table 1. Participants who participated

<b>Participants</b>			
<b>Mtubatuba</b>		<b>Umgababa</b>	
<b>Community Members</b>		<b>Community Members</b>	
<b>Age Groups</b>	<b>No. of Participants</b>	<b>Age Groups</b>	<b>No. of Participants</b>
20 - 30	4	20 - 30	5
30 - 40	7	30 - 40	6
40 - 50	5	40 - 50	3
<b>Teachers</b>		<b>Teachers</b>	
	3		4
<b>Grade 6 Learners</b>		<b>Grade 6 Learners</b>	
	5		17
<b>Grade 7 Learners</b>		<b>Grade 7 Learners</b>	
	7		10

Table 1.

## 5. Ethical Letter



SCHOOL OF EDUCATION

**Dr Carolyn McKinney**  
*Associate Professor*

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EDNREC20220307

28 March 2022

Nicolette Brand BRNNIC066

MEd

Dear Ms Brand

### **Re: Ethical Clearance for Research Project**

I am pleased to inform you that ethical clearance has been granted by the School of Education Research Ethics Committee of the Faculty of Humanities for your research project entitled: Efficacy of indigenous games in enhancing perceptual-motor skills in pre-schoolers: A qualitative study of two informal settlements in Kwa Zulu Natal

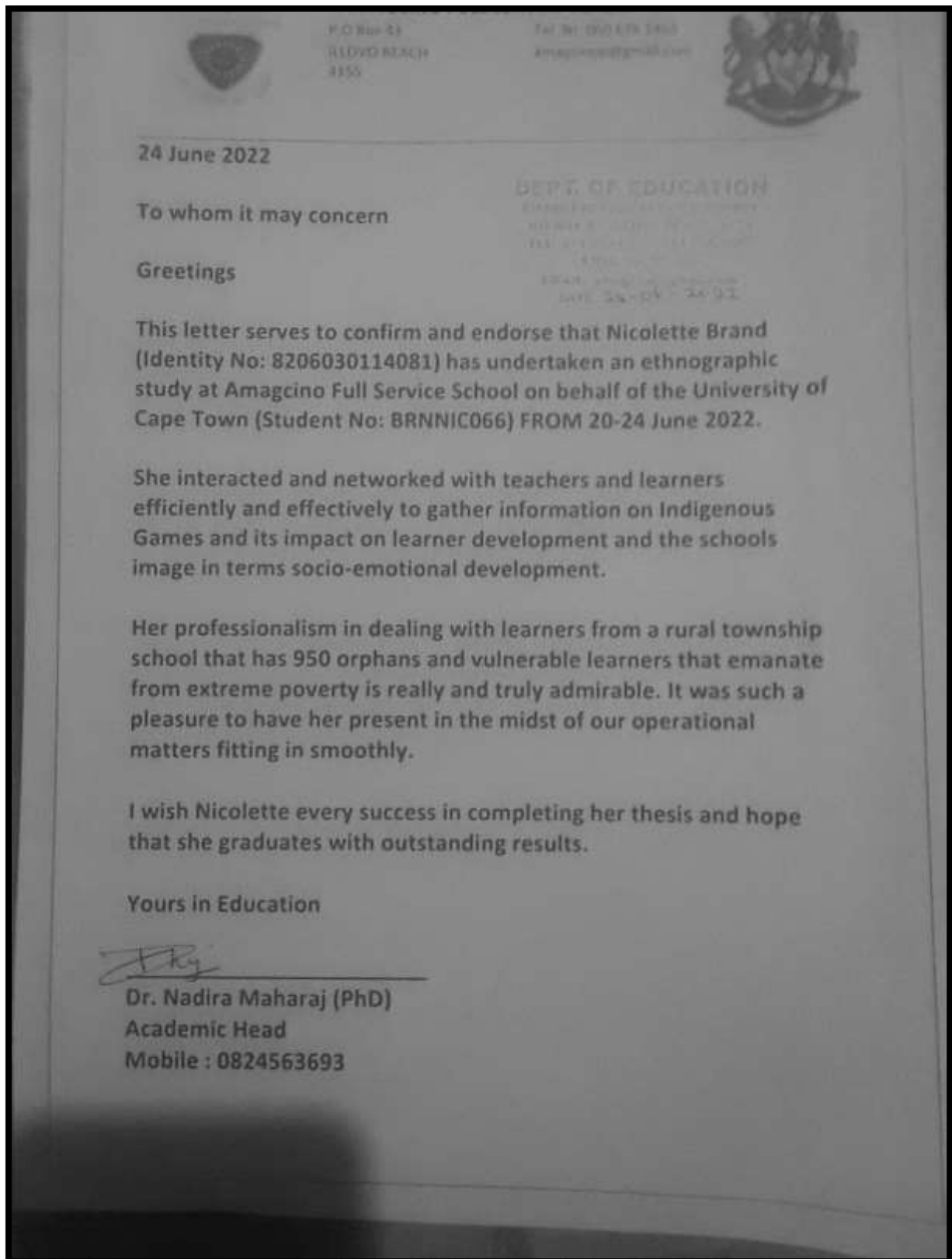
I wish you all the best with your study.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Carolyn McKinney'.

Associate Professor Carolyn McKinney  
**Chair - School of Education Research Ethics Committee**

## 6. Letter of approval from Schools



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