



# Cultural Dissonance in Developmental Benchmarking: A Comparative Analysis of Traditional Ndebele Developmental Milestones and Standardised ECD Assessment Indicators in Matobo District, Zimbabwe

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**Abstract:** Early childhood development (ECD) assessment tools, rooted in Western psychological frameworks, are routinely implemented across sub-Saharan Africa with little cultural validation. This comparative qualitative case study investigated cultural dissonance between standardised ECD assessment tools and traditional Ndebele developmental knowledge systems in Matobo District, Zimbabwe. Drawing on Bronfenbrenner's bio-ecological systems theory and Nsamenang's Africentric theory of social ontogenesis, the study documented 127 traditional Ndebele developmental milestones across seven domains through focus group discussions and interviews with community elders, then compared these systematically with Zimbabwe's mandated Early Learning Development Standards (ELDS). Findings revealed only 23% convergence between the two systems, with pronounced divergence in social-relational competencies and complete omission of spiritual-cosmological and moral-ethical domains from standardised instruments. This dissonance produced deficit labelling of culturally competent children, family-school tension, practitioner epistemological conflict and cultural devaluation. The study advances Nsamenang's Africentric developmental theory through empirical specificity, extends Bronfenbrenner's bio-ecological framework to assessment validity and proposes eight principles for culturally responsive ECD assessment grounded in epistemic pluralism and cultural-ecological validity. Indigenous knowledge systems must be recognised as legitimate parallel epistemologies, not peripheral variations, in global ECD policy and practice.

**Keywords:** cultural dissonance, ECD assessment, indigenous knowledge systems, Ndebele developmental milestones, epistemic injustice, Africentric theory, cultural-ecological validity, decolonising education, Zimbabwe

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## 1. Introduction

### 1.1 Opening Hook and Contextualisation

Five-year-old Sibusiso walks confidently through the rocky terrain of Matobo District, southern Zimbabwe, guiding fifteen goats away from a neighbour's maize field with practiced precision. He counts each animal by name, notices immediately when the youngest kid limps

slightly and positions himself strategically between the herd and potential danger; a level of spatial awareness, risk assessment and responsibility that his grandmother describes as *ukuhlakanipha* (intelligence) fully realised for his age. When elders visit his homestead, Sibusiso greets them with the intricate protocols of *inhlonipho* (kneeling, using correct kinship terms) and recites his family's *izibongo* (clan praises) with the confidence of a child deeply rooted in his cultural identity. By every

measure valued in his Ndebele community, Sibusiso is thriving.

Yet his most recent developmental assessment report from the local Early Childhood Development (ECD) centre tells a starkly different story. The standardised checklist, mandated by Zimbabwe's Ministry of Primary and Secondary Education, classifies him as "below expected level" in cognitive development because he struggles to identify printed letters and "requiring support" in social-emotional development because he prefers collaborative play with mixed-age children rather than the parallel play with same-age peers deemed age-appropriate by the assessment rubric. His teacher, trained to implement tools derived from Western developmental psychology, has recommended him for targeted intervention.

This jarring disconnect (between a child demonstrating sophisticated competence within his cultural ecology and that same child being labelled developmentally deficient by formal assessment systems) illuminates a profound crisis in contemporary early childhood development practice. While international frameworks increasingly acknowledge the importance of cultural diversity in child development (UNESCO, 2021), assessment practices in low- and middle-income countries remain dominated by instruments designed for Western, middle-class contexts (Sayre et al., 2015). This represents not merely a technical problem of measurement validity, but a deeper issue of epistemic justice; the systematic privileging of certain ways of knowing child development while rendering others invisible (Serpell, 2011). This study addresses this critical gap by systematically documenting traditional Ndebele developmental assessment frameworks and comparing them with standardised tools mandated in Zimbabwean schools; generating empirical evidence essential for developing culturally responsive alternatives.

## 1.2 The Global Problem: Universalism in ECD Assessment

The dominance of standardised developmental assessment in contemporary early childhood practice has deep historical roots in Western psychology's quest for universal laws of human development. Early twentieth-century maturational theorists, most notably Arnold Gesell, constructed normative schedules of child development based on observations of predominantly white, middle-class American children, positioning these patterns as biologically determined and universally applicable (Gesell & Amatruda, 1947). Piaget's influential stage theory further entrenched assumptions about invariant developmental progressions transcending cultural context (Piaget, 1952). These foundational frameworks gave rise to contemporary standardised assessment instruments (including the Ages and Stages Questionnaire (ASQ) and Bayley Scales of Infant and Toddler Development) that operationalise

developmental milestones as decontextualised, age-specific competencies presumed valid across all cultural settings (Weber et al., 2019).

The globalisation of these Western-derived tools accelerated following international commitments to universal early childhood development. Multilateral organisations promoted standardised assessment as essential for monitoring developmental outcomes in low- and middle-income countries (LMICs) (Black et al., 2017). This exportation occurred largely without rigorous cultural validation, driven by assumptions that developmental processes were sufficiently universal to warrant cross-cultural application of tools normed on Western populations (Rao et al., 2019). Recent systematic reviews have documented profound limitations of this approach. Sayre and colleagues' (2021) meta-analysis across 29 LMICs found that standardised tools systematically underestimated developmental competencies of children from non-Western backgrounds, producing deficit narratives unsupported by culturally grounded assessment methods.

Theoretical critiques from socio-cultural developmental psychology have long challenged these universalist assumptions. Vygotsky's (1978) foundational work emphasised that cognitive development is fundamentally shaped by culturally specific tools, practices and social interactions. Rogoff's (2003) cultural-historical framework demonstrated that developmental pathways vary systematically based on children's participation in culturally organised activities. Super and Harkness's (1986) developmental niche theory documented how developmental goals and assessment criteria reflect culturally constructed "ethnotheories" rather than universal biological imperatives. More recently, Keller (2018) has shown that Western assessment tools encode specific cultural values (particularly autonomous self-regulation and individual achievement) that conflict fundamentally with the interdependent developmental goals prioritised in many non-Western societies.

The consequences of imposing culturally dissonant assessment frameworks extend beyond measurement inaccuracy. In sub-Saharan Africa, studies have documented systematic misidentification of children as developmentally delayed when assessed using Western tools. Serpell's (1993, 2011) Zambian work revealed that indigenous concepts of intelligence (*nzelu*) (emphasising social responsibility and practical skill) bore little resemblance to capacities measured by Western tests, resulting in profound underestimation of children's capabilities. These assessment failures carry material consequences; misidentification results in inappropriate referrals, wasted resources and psychological harm to families told their children are deficient (Makuvaza et al, 2024). At a deeper level, the uncritical imposition of Western frameworks enacts what Santos (2014) terms "epistemicide"; the destruction of alternative knowledge

systems through systematic exclusion from legitimated discourse.

### 1.3 The African Context: Indigenous Knowledge Systems and Child Development

In contrast to universalist frameworks, African societies have developed sophisticated knowledge systems for understanding child development that reflect distinct philosophical worldviews and ecological realities (Nsamenang, 2006). These indigenous systems share epistemological commitments distinguishing them from Western developmental psychology; an emphasis on relational conceptions of personhood, integration of spiritual and material dimensions of development and privileging of communal responsibility as developmental endpoints (Pence & Nsamenang, 2008).

A. Bame Nsamenang's theoretical work provides the most comprehensive Africentric developmental framework. His concept of "social ontogenesis" posits that African child development is fundamentally about "becoming human" through progressive integration into social life, rather than linear acquisition of individual cognitive capacities (Nsamenang, 1992, 2008). This framework positions intelligence as adaptive competence demonstrated through appropriate social behaviour, practical skill and contribution to communal welfare. Developmental assessment within this paradigm focuses on observing children's participation in culturally valued activities, their demonstration of respect protocols and their capacity to fulfil age-appropriate responsibilities; criteria largely absent from standardised Western instruments.

The philosophical foundation undergirding African child development practice is *ubuntu* (in Nguni languages) or *hunhu* (in Shona); conceptualising personhood as inherently relational and constituted through social bonds (Metz, 2022). Where Western frameworks privilege independence and individual achievement as markers of healthy development, *ubuntu*-informed approaches value interdependence and social competence. Assessment within this framework attends to moral and relational dimensions (whether children demonstrate appropriate respect, share resources and participate constructively in collective activities) competencies that Western tools often ignore or pathologise as "excessive dependence" (Keller, 2018).

Empirical research has documented these commitments in specific African contexts. Serpell's (1993, 2011) Zambian study revealed that Chewa conceptions of intelligence emphasised social responsibility and agricultural competence rather than abstract reasoning. Mwaura and Marfo (2011) found Kenyan parents prioritised development of respect for elders and practical competencies over early literacy. Within

Southern African contexts, indigenous developmental knowledge incorporates spiritual dimensions typically excluded from Western frameworks. Mkhize (2006) documented how Zulu children's development was understood in relation to ancestral presence, with developmental assessment including evaluation of spiritual awareness; domains entirely absent from standardised frameworks.

Despite this scholarship, a critical gap remains. African research has been stronger in documenting indigenous knowledge conceptually than conducting systematic empirical comparisons mapping indigenous milestones against standardised frameworks (Makuvaza et al, 2024). This gap is particularly acute in Zimbabwe, where no published study has systematically documented traditional developmental milestones and compared them with mandated assessment tools since the 2004 and 2015 curriculum reforms.

### 1.4 The Zimbabwean and Ndebele Context

Zimbabwe's formal ECD sector emerged post-independence as part of efforts to decolonise education. The 2004 Education Act introduced the first national ECD framework, mandating developmental assessment through Early Learning Development Standards (ELDS) adapted from international models (Ministry of Education, Sport, Arts and Culture, 2004). The 2015 Curriculum Framework introduced detailed assessment guidelines requiring practitioners to evaluate children across four domains using observation schedules and checklists aligned with Outcomes-Based Education (Ministry of Primary and Secondary Education, 2015). While policy documents contain commitments to "cultural appropriateness" and "indigenous knowledge integration," research reveals substantial disjuncture between rhetoric and implementation. Mpofo and Nyanungo (1998) found that 94% of practitioners used assessment tools that were direct translations of Western instruments with no incorporation of indigenous indicators.

Matobo District, located approximately 50 kilometres south of Bulawayo in Matabeleland South Province, exemplifies this tension. The district supports approximately 125,000 people, overwhelmingly rural (89%) and Ndebele-speaking (96%), with livelihoods centred on agro-pastoral activities (Zimbabwe National Statistics Agency, 2022). Educational infrastructure includes 94 registered ECD centres serving approximately 3,800 children annually. The district holds profound cultural significance as the spiritual heartland of the Ndebele nation, with the Matobo Hills UNESCO World Heritage Site containing burial sites of King Mzilikazi and remaining active in spiritual practice (Chirikure et al., 2013).

Msindo (2012) demonstrates that the Ndebele people's cultural identity derives from their Nguni heritage, distinct from Zimbabwe's Shona majority, manifesting in language (isiNdebele), kinship structures, and pastoralist traditions. Child-rearing practices prioritise communal responsibility and practical competence aligned with household economic needs. Historical accounts suggest sophisticated indigenous frameworks for assessing development through continuous community observation, with transitions marked by naming ceremonies (*ukuthiya*) at specific developmental junctures (Nyathi, 2001). Ndlovu (2020) highlights *inhlonipho* (appropriate social behaviour toward elders) as central to developmental expectations in Ndebele child-rearing, with mastery of greeting protocols, kinship terms, and appropriate conduct in adult spaces by age four to five signalling readiness for increased responsibility. Practical competencies (livestock management for boys; domestic skills for girls) and oral-linguistic competence (*izibongo* recitation, proverb usage) similarly constituted developmental markers.

Despite these rich frameworks, no contemporary research has systematically documented traditional Ndebele milestones or examined their relationship to standardised assessment tools. This study addresses this gap through systematic comparative analysis in six ECD centres across Matobo District.

## 1.5 Study Rationale, Purpose and Research Questions

Despite documented concerns about cultural bias in ECD assessment across sub-Saharan Africa (Sayre et al., 2021) and theoretical scholarship articulating African developmental frameworks (Nsamenang, 2006), no empirical study has systematically compared traditional Ndebele developmental milestones with standardised ECD assessment indicators mandated in Zimbabwean schools. This gap has critical consequences; policymakers lack evidence for assessment reform; practitioners navigate epistemological tensions without guidance; and communities experience epistemic injustice as their knowledge is excluded from formal processes (Munsaka and Machokoto, 2025).

This study conducts a systematic comparative analysis of traditional Ndebele developmental milestones and standardised ECD assessment indicators in Matobo District, guided by four research questions:

- RQ1:** What developmental milestones are recognised within traditional Ndebele child development knowledge systems and how are these organised across developmental domains?
- RQ2:** How do traditional Ndebele milestones compare with standardised ECD assessment indicators in terms of: (a) convergence; (b) divergence; and (c) domains present in one system but absent in the other?

**RQ3:** What are the consequences of cultural dissonance for children's assessment outcomes and educational placement in selected ECD centres?

**RQ4:** What principles should guide development of a culturally responsive framework honouring both indigenous knowledge and developmental standards?

This study contributes theoretically by extending Nsamenang's Africentric developmental theory to the Ndebele context; empirically by generating the first comprehensive inventory of traditional Ndebele developmental milestones; and practically by providing evidence for reforming Zimbabwe's ECD assessment policies; with implications extending to any context where standardised tools are imposed on children developing in different cultural ecologies.

## 2. Literature Review

### 2.1 Theoretical Framework

#### 2.1.1 Introduction to Theoretical Positioning

This study employs a dialogical theoretical framework bringing two developmental theories into productive conversation; Bronfenbrenner's (1979) bio-ecological systems theory and Nsamenang's (1992, 2006) Africentric developmental theory of social ontogenesis. This dual-framework approach is necessitated by the study's central comparative task (examining cultural dissonance between Western-derived standardised assessment tools and indigenous Ndebele developmental knowledge systems) which requires theoretical resources capable of both explaining how cultural contexts shape developmental processes and providing specific conceptual language for understanding African child development on its own epistemological terms (Pence & Marfo, 2008). Bronfenbrenner's theory offers essential analytical breadth, providing a meta-theoretical framework for understanding how nested ecological systems fundamentally shape what constitutes developmental competence and how it is assessed. However, because Bronfenbrenner's framework was developed primarily within Western contexts and remains relatively abstract regarding specific cultural content, it requires complementarity with a theory grounded in African cultural realities (Nsamenang, 2006). Nsamenang's social ontogenesis framework provides this cultural specificity, articulating distinctive philosophical commitments (*ubuntu*, communal personhood), developmental endpoints (social responsibility, moral maturity, practical competence) and assessment logics characterising African developmental ecologies, including Ndebele contexts.

Critically, this study adopts a dialogical rather than hierarchical relationship between these theories. Neither framework is positioned as universally superior; instead,

they are engaged as complementary knowledge systems, each illuminating dimensions of developmental assessment that the other obscures (Kessi & Boonzaier, 2018). Bronfenbrenner's ecological lens enables analysis of how assessment tools encode the macrosystem values of their origin culture and why these tools fail when transplanted into different macrosystems. Nsamenang's ontogenesis framework provides conceptual vocabulary for understanding what those different macrosystem values entail and how they generate alternative developmental trajectories. Together, these theories create an analytical space wherein indigenous Ndebele developmental knowledge can be examined as a sophisticated, internally coherent epistemological system rather than merely a "cultural variation" from Western norms, whilst maintaining critical analytical distance that avoids romanticising either knowledge system. This dialogical approach reflects broader decolonial methodological commitments to epistemic pluralism; the recognition that multiple legitimate ways of knowing child development can and should coexist (Chilisa, 2020).

### 2.1.2 Bronfenbrenner's Bio-Ecological Systems Theory

Bronfenbrenner's bio-ecological systems theory provides foundational conceptual architecture for understanding how child development is fundamentally shaped by nested layers of environmental context (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006). Context is conceptualised as five nested ecological systems; the microsystem (immediate settings such as family and school where face-to-face interactions occur); the mesosystem (interconnections between microsystems); the exosystem (external settings that indirectly affect the child); the macrosystem (overarching cultural belief systems, values and ideologies permeating all other levels); and the chronosystem (environmental changes over time, including historical time). The theory's central proposition (that development cannot be understood outside these nested ecological contexts) directly challenges universalist developmental psychology's assumption that developmental processes are decontextualised biological phenomena (Rogoff, 2003).

For this study, Bronfenbrenner's framework provides essential analytical tools for understanding cultural dissonance in developmental assessment as fundamentally an ecological phenomenon. At the microsystem level, Ndebele children develop within immediate contexts (extended family homesteads, agro-pastoral work environments, community gatherings and ECD centres) where they encounter culturally specific expectations and learning opportunities. Daily proximal processes include participating in livestock herding, engaging in respectful interactions with elders (*inhlonipho* protocols), reciting oral narratives (*izibongo*) and contributing to household subsistence

labour; all interactions cultivating competencies central to Ndebele developmental goals. The mesosystem encompasses relationships between these microsystems; for example, how community elders' developmental assessments (based on observations of herding competence, respectful behaviour and cultural knowledge) intersect with ECD teachers' formal assessments (based on standardised checklists evaluating letter recognition and individual problem-solving). When these relationships are characterised by contradiction (as when community evaluates a child as thriving whilst school assessment labels them delayed) family-school conflict emerges.

The macrosystem constitutes the most analytically powerful level for this study, illuminating how culturally embedded belief systems generate fundamentally different conceptions of developmental competence. The Ndebele macrosystem prioritises ubuntu (communal personhood), social responsibility, practical contribution to family welfare and oral-cultural knowledge mastery as developmental endpoints (Nsamenang, 2008). Assessment within this macrosystem logically attends to whether children demonstrate these valued competencies; Can the child herd livestock responsibly? Does the child show appropriate *inhlonipho*? Can the child recite family *izibongo*? In stark contrast, the Western macrosystem encoded in standardised assessment tools prioritises individual autonomy, abstract cognitive skills and print literacy preparation as developmental endpoints (Keller, 2018). When tools developed within the Western macrosystem are imposed on children developing within the Ndebele macrosystem, ecological invalidity results; the tools measure competencies aligned with one set of cultural values whilst being unable to recognise competencies aligned with a fundamentally different value system. This is not merely cultural "bias" as correctable measurement error, but structural incompatibility between the cultural logic embedded in assessment instruments and the cultural logic shaping actual developmental processes in Ndebele communities.

The chronosystem provides historical depth, revealing that contemporary assessment dissonance has colonial roots. Pre-colonial Ndebele developmental assessment relied on indigenous frameworks centred on communal observation and elder authority (Nyathi, 2001). Colonial education introduced Western developmental psychology frameworks that pathologised African child-rearing practices (Shizha, 2013). Post-independence Zimbabwean policy initially promised educational decolonisation but ultimately retained Western-derived assessment tools through international development apparatus influence. Understanding this trajectory illuminates that current assessment practices represent accumulated historical choices rather than inevitable technical necessities, opening possibilities for alternative futures grounded in indigenous epistemologies.

However, whilst Bronfenbrenner's framework provides powerful ecological analysis, it has critical limitations for this study. The theory was developed primarily through research in Western contexts and engages minimally with non-Western epistemologies or specific cultural content of developmental values in diverse societies (Pence & Marfo, 2008). Bronfenbrenner can explain that macrosystems shape developmental competence, but provides limited conceptual vocabulary for understanding what the Ndebele macrosystem specifically entails or what assessment practices emerge from these worldviews. This limitation necessitates theoretical complementarity with Nsamenang's Africentric framework.

### 2.1.3 Nsamenang's Africentric Developmental Theory

A. Bame Nsamenang's theory of social ontogenesis constitutes the most comprehensive articulation of an Africentric developmental framework, grounded in empirical research across African contexts (Nsamenang, 1992, 2006, 2008). The theory's central proposition (that African child development is fundamentally about "becoming human" through progressive, culturally organised participation in communal life) represents a decisive epistemological departure from Western developmental psychology's emphasis on individual maturation (Nsamenang, 2006, p. 295). Where Piagetian frameworks conceptualise development as increasingly sophisticated individual mental operations, Nsamenang posits development as deepening social integration, relational competence and moral responsibility within one's cultural community (Pence & Nsamenang, 2008).

This reconceptualisation has profound implications for developmental assessment. If the endpoint of development is not autonomous individuation but competent interdependence, then assessment must logically evaluate children's progressive mastery of social roles, communal participation, practical contributions and moral-spiritual grounding rather than solely abstract cognitive capacities measured through decontextualised tasks (Serpell, 2011).

Nsamenang's framework identifies three major developmental stages organised around shifting social participation patterns. Social selfhood (birth to approximately three years) encompasses the child's transition from biological to social being through integration into family and community. Social priming or apprenticeship (approximately three to puberty) constitutes early and middle childhood; the period of most relevance to this study's focus on ages three to six. During this stage, children undergo systematic enculturation into their society's knowledge systems through participation in age-appropriate productive activities, guided by parents, older siblings, extended family and community elders. Developmental competence is demonstrated through children's ability to

perform household and subsistence tasks (herding livestock, fetching water, domestic labour), demonstrate culturally appropriate social behaviours (respect protocols, sharing), master oral-cultural knowledge (narratives, proverbs, genealogies) and show emerging moral reasoning aligned with communal values (Nsamenang, 2008).

Several key Africentric concepts distinguish Nsamenang's framework. First, intelligence is reconceptualised as adaptive competence within specific cultural ecologies rather than abstract problem-solving ability (Nsamenang, 2006). A child demonstrating sophisticated spatial reasoning and numerical competence whilst herding goats exhibits intelligence as legitimately as a child sorting blocks in a clinic. Second, developmental goals emphasise social integration and practical mastery over individual academic achievement (Wadende et al., 2016). A developmentally competent five-year-old, in this framework, is one who contributes meaningfully to family welfare, demonstrates *ubuntu* through spontaneous sharing, shows respect for elders and ancestors and participates appropriately in community life; goals largely absent from Western assessment rubrics. Third, assessment authority is distributed across the community rather than concentrated in professional experts; elders, grandparents and community members collectively evaluate children's developmental progress through continuous observation in authentic contexts (Serpell & Marfo, 2014).

For this study, Nsamenang's framework provides conceptual architecture for understanding traditional Ndebele developmental milestones. The theory predicts that Ndebele assessment will prioritise competencies aligned with social ontogenesis; children's progressive ability to participate in agro-pastoral activities, their demonstration of *inhlonipho*, their mastery of oral-cultural knowledge (*izibongo*, proverbs) and their spiritual awareness. The framework explains why these competencies constitute legitimate developmental achievements; they represent children's progressive journey toward full humanity within Ndebele ontology, wherein personhood is relational and realised through communal contribution (Metz, 2011). Nsamenang's domains (social, practical, moral, spiritual) provide an analytical framework for categorising traditional milestones that emerges from African epistemology rather than imposing Western domain structures.

The integration of Nsamenang's framework with Bronfenbrenner's bio-ecological theory creates a comprehensive analytical apparatus. Bronfenbrenner explains the ecological mechanism of cultural dissonance; macrosystem values shape developmental contexts and competence definitions. Nsamenang specifies the cultural content of those macrosystem values in African contexts; what communalism, *ubuntu* and social ontogenesis concretely entail and how they

generate particular developmental pathways. Together, they enable culturally grounded, ecologically sensitive analysis that can simultaneously critique the imposition of Western assessment tools and articulate sophisticated indigenous alternatives without positioning either as universally superior.

#### 2.1.4 Theoretical Synthesis and Conceptual Framework

The integration of Bronfenbrenner's bio-ecological systems theory and Nsamenang's social ontogenesis framework generates a synthesised conceptual model that provides the analytical architecture for this study. This integration operates on the principle of complementary theoretical functions; Bronfenbrenner's framework explains how nested ecological systems shape developmental processes and assessment practices, whilst Nsamenang's framework specifies what those cultural values concretely entail in African contexts (Pence & Marfo, 2008).

This integrated framework yields four core theoretical propositions guiding the study's design and analysis.

**Proposition 1:** Developmental milestones are culturally constructed within specific ecological contexts; they represent observable markers of progress toward developmental endpoints valued within particular macrosystems, not universal biological inevitabilities (Nsamenang, 2006).

**Proposition 2:** Assessment tools encode the macrosystem values of their origin culture; standardised ECD assessments embed Western macrosystem priorities through their selection of domains and indicators (Keller, 2018).

**Proposition 3:** Cultural dissonance in assessment occurs when tools from one macrosystem are imposed on children developing in a different macrosystem; such imposition creates structural invalidity (Bronfenbrenner & Morris, 2006).

**Proposition 4:** Valid developmental assessment requires alignment between assessment indicators and the cultural ecology in which children develop; validity is context-dependent, not universal (Munsaka & Machokoto, 2025).

From these propositions flow operational definitions structuring data collection and analysis. A **developmental milestone** is defined as an observable competency marking progress toward culturally valued developmental endpoints, recognised within a specific cultural community as signifying developmental

maturation appropriate to a child's age. **Cultural dissonance** refers to misalignment between developmental competencies valued and assessed within indigenous knowledge systems versus those prioritised in standardised assessment tools. **Assessment validity** is conceptualised as the degree to which an assessment tool accurately represents a child's developmental competence within their cultural-ecological context (Rao et al., 2019).

The conceptual framework directly informs each research question's analytical approach. RQ1 employs Nsamenang's social ontogenesis domains as sensitising concepts for categorising traditional Ndebele milestones whilst remaining open to emic categories emergent from community knowledge holders. RQ2 utilises Bronfenbrenner's macrosystem concept to frame the comparison whilst Nsamenang's framework provides conceptual vocabulary for interpreting what Ndebele macrosystem values specifically entail. RQ3 draws on Bronfenbrenner's mesosystem concept to analyse consequences of assessment dissonance for family-school relationships. RQ4 synthesises insights from both frameworks to propose principles balancing ecological contextualism with culturally grounded developmental content. This integrated framework thus functions as the operational scaffold guiding methodological decisions and interpretation of findings (Chilisa, 2020).

## 2.2 Empirical Evidence

### 2.2.1 Cultural Bias in Standardised ECD Assessment: Global Evidence

The empirical case against culturally untested developmental assessment tools has grown considerably over the past decade, and it is damning. Sayre et al. (2015) conducted what remains the most expansive review of its kind, examining ECD assessment practices across 29 low- and middle-income countries and finding that standardised instruments consistently underestimated the developmental competencies of children from non-Western backgrounds. The mechanisms were not subtle; tools normed exclusively on Western populations, tasks designed around decontextualised problem-solving, assessment conducted in dominant rather than home languages, and an almost complete absence of domains reflecting communally organised developmental goals. What the tools measured, in other words, was not development as such but rather alignment with a particular cultural script for what development should look like. Black et al. (2017) traced the institutional pathways through which these tools travelled from their countries of origin into LMICs, documenting how multilateral development organisations promoted standardised assessment as a condition of development financing with minimal attention to cultural fit. The assumption, rarely stated but structurally embedded, was that developmental

processes were sufficiently universal to make cross-cultural application of Western-normed instruments a technical rather than epistemological matter.

That assumption has not held up well under empirical scrutiny. Keller (2018) drew on decades of cross-cultural data to demonstrate that widely used assessment instruments encode specific cultural values (particularly autonomous self-regulation and individual achievement) that are not developmental universals but culturally contingent ideals. In societies where interdependence, communal contribution and relational competence constitute the explicit goals of child-rearing, these tools do not merely measure different things; they actively misrepresent children's developmental status. Rao et al. (2019) extended this critique by examining how assessment tools function as what they termed "cultural artefacts," carrying embedded assumptions about the relationship between age, competence and appropriate behaviour that reflect the social contexts in which they were developed. Weber et al. (2019) provided instrument-specific evidence, showing that tools including the Ages and Stages Questionnaire and the Bayley Scales of Infant and Toddler Development demonstrated systematic measurement distortion when applied outside their normative populations. Children assessed as delayed by these instruments were, in many cases, demonstrating sophisticated competencies that the tools were structurally incapable of recognising. The consequence is not merely statistical imprecision; it is the production of deficit narratives about children who are, by every culturally meaningful measure, thriving.

### **2.2.2 Indigenous Developmental Knowledge Systems in African Contexts: Empirical Contributions**

Robert Serpell's programmatic research in Zambia remains the empirical anchor for understanding how African communities conceptualise child development on their own epistemological terms. His foundational ethnographic work (Serpell, 1993) documented how Chewa-speaking communities understood intelligence through the concept of *nzelu*, a term encompassing social responsibility, practical agricultural competence and the capacity to contribute meaningfully to communal life. Abstract reasoning, the primary currency of Western cognitive assessment, barely registered. His subsequent work (Serpell, 2011) elaborated this further, showing that assessment authority in Chewa communities was distributed across extended family and community networks rather than concentrated in professional specialists, and that developmental evaluation occurred through continuous observation in authentic activity settings rather than through episodic, decontextualised testing. What makes this body of work particularly valuable is not just that it identified different priorities but that it demonstrated, with empirical specificity, how those priorities generated internally coherent, culturally grounded assessment logics. Mkhize (2006) documented

comparable patterns among Zulu-speaking communities in South Africa, where child development was understood through ubuntu-informed frameworks emphasising interdependence, moral-relational maturation and spiritual awareness. Critically, Mkhize found that spiritual attunement (including children's demonstrated awareness of ancestral presence and its moral implications) constituted a recognised developmental domain that Western frameworks not only ignored but lacked conceptual vocabulary to even acknowledge.

The East African evidence adds further texture. LeVine et al. (1994) documented through sustained ethnographic engagement that agricultural and domestic competencies occupied central positions in developmental expectations across several East African communities, with children's progressive mastery of productive tasks understood as simultaneous evidence of cognitive growth, moral development and social integration. These were not separate domains to be assessed independently but interwoven expressions of a child becoming a person in the fullest cultural sense. Mwaura and Marfo (2011) found in their Kenyan study that parental developmental priorities were oriented substantially toward children's demonstration of respect for elders and practical community contribution, with early literacy preparation ranking considerably lower than it does in Western developmental frameworks. Munsaka and Machokoto (2025) surveyed this accumulated body of African ECD research and reached a pointed conclusion; the field has been stronger in articulating indigenous developmental values at a conceptual level than in generating systematic empirical comparisons that map specific indigenous milestones against standardised indicators. That gap, they argued, is the most pressing methodological frontier in African ECD scholarship. The present study is a direct response to that call.

### **2.2.3 ECD Assessment in Zimbabwe: Policy and Practice Evidence**

Zimbabwe's ECD policy landscape presents a striking case of what Takayama et al. (2017) termed "policy borrowing without translation." The 2004 Education Act introduced the first national ECD framework, drawing substantially from international models developed in Western contexts (Ministry of Education, Sport, Arts and Culture, 2004). The 2015 Curriculum Framework expanded these provisions, introducing detailed assessment guidelines requiring practitioners to evaluate children across four domains using observation schedules and checklists aligned with outcomes-based education principles (Ministry of Primary and Secondary Education, 2015). Both policy documents contain explicit commitments to cultural appropriateness and indigenous knowledge integration. The commitments, however, did not translate into practice. Mpfu and Nyanungo (1998) surveyed ECD practitioners across three Zimbabwean provinces and found that 94% used

assessment tools that were direct or near-direct translations of Western instruments, with no systematic incorporation of indigenous developmental indicators. Teachers reported being trained to implement these tools and evaluated on their fidelity to standardised procedures; the structural incentives, in other words, ran entirely against cultural adaptation. This is not a story of individual practitioner failure but of systemic policy implementation that reproduced the very Western frameworks it nominally sought to move beyond.

The Ndebele-specific evidence base is thin but suggestive. Nyathi (2001) documented historical Ndebele developmental knowledge, noting that community assessment of child development occurred through naming ceremonies (*ukuthiya*) at recognised developmental junctures and through elder observation of children's progressive mastery of culturally valued competencies. Ndlovu (2020) examined *inhlonipho* (appropriate respectful behaviour toward elders) as a central developmental marker in Ndebele child-rearing, finding that mastery of specific greeting protocols, correct use of kinship terms, and appropriate conduct in adult spaces by age four to five was understood by community members as signifying developmental readiness for increased responsibility. Mhaka-Mutepfa (2018) documented household caregiving structures in Zimbabwe, including Matobo District, finding that grandmothers serve as primary caregivers in approximately 38% of households. This makes elder women the primary custodians and transmitters of traditional developmental knowledge in the district. Taken together, this evidence establishes that Ndebele communities possess sophisticated, historically grounded frameworks for developmental assessment. What it does not establish (because no study has yet attempted it) is a systematic, empirically grounded comparison between these frameworks and the standardised tools currently mandated in Zimbabwean ECD centres. That is precisely the gap this study was designed to fill.

### 2.2.4 Identifying the Empirical Gap

The literature reviewed above tells a reasonably clear story about what is known and what is not. Globally, there is substantial evidence that standardised ECD assessment tools produce systematic misrepresentation of non-Western children's competencies (Sayre et al., 2015; Keller, 2018; Weber et al., 2019). Across African contexts, empirical work has documented indigenous developmental knowledge systems that prioritise relational, practical and spiritual-cosmological competencies largely absent from standardised instruments (Serpell, 1993, 2011; Mkhize, 2006; LeVine et al., 1994; Mwaura & Marfo, 2011). In Zimbabwe specifically, the policy-practice disjuncture has been documented, with the most recent available evidence showing that 94% of assessment tools remain unmodified Western imports (Mpofu & Nyanungo,

1998). What none of this literature has done is produce a systematic, empirically grounded inventory of traditional Ndebele developmental milestones and subject that inventory to rigorous domain-by-domain comparison with the standardised tools actually used in Zimbabwean ECD centres.

The gap is not peripheral. Makuvaza et al (2024) identified exactly this kind of systematic comparative empirical work as the most urgent methodological need in African ECD scholarship. Without it, policy reform arguments rest on generalised critique rather than specific evidence; practitioners navigating cultural tensions do so without research guidance; and communities whose knowledge is excluded from formal processes lack the documented evidence base that advocacy requires. The present study addresses all three dimensions of this gap. It does not claim to resolve the broader problem of ECD assessment cultural bias, a problem operating at global scale with deep institutional roots. What it does generate, for the first time in the Ndebele context, the empirical specificity that meaningful reform requires: documented milestones, quantified convergence and divergence, and grounded evidence of the consequences when assessment systems and cultural ecologies collide.

## 3. Methodology

### 3.1 Research Design and Philosophical Positioning

This study employed a comparative qualitative case study design to systematically examine traditional Ndebele developmental milestones and standardised Early Childhood Development (ECD) assessment indicators for children aged 4 to 7 years in Matobo District, Zimbabwe (Bartlett & Vavrus, 2017; Yin, 2018). The design integrates three methodological elements (case study, comparative and qualitative approaches) each addressing specific analytical requirements whilst maintaining epistemological coherence with the study's decolonial commitments (Chilisa, 2020; Smith, 2021).

The case study element positions Matobo District as a bounded system enabling deep, contextualised investigation of cultural dissonance in developmental assessment (Merriam & Tisdell, 2016). Case study methodology is appropriate when research questions require understanding complex phenomena within their real-world contexts and when contextual conditions are integral to understanding (Yin, 2018). The single-case design with embedded units (six ECD centres, multiple participant categories) enables "information-rich" investigation generating depth that broader multi-site approaches would sacrifice (Flyvbjerg, 2006).

The comparative element structures analysis around systematic comparison between two assessment systems; traditional Ndebele developmental milestones and standardised ECD assessment indicators mandated through Zimbabwe's national curriculum framework for ECD Levels A and B (Bartlett & Vavrus, 2017). This "horizontal comparison" approach differs from conventional methodologies positioning Western systems as implicit standards. Instead, this study enacts "comparison for mutual illumination"; placing knowledge systems alongside each other to understand their internal logics without presupposing either represents a superior framework (Takayama et al., 2017).

The qualitative approach reflects focus on understanding meanings, cultural logics and nuanced differences rather than measuring prevalence (Creswell & Poth, 2018). Qualitative methodology enables investigation of why divergences exist, what cultural logics underlie different milestone systems and how stakeholders experience assessment dissonance. Quantitative validation studies of standardised tools in African contexts have proliferated (Sayre et al., 2015), yet these identify cultural bias without providing indigenous knowledge documentation necessary for developing culturally responsive alternatives. This study addresses that gap through qualitative documentation privileging depth, meaning and cultural voice.

### Philosophical Paradigm

The study is positioned within a critical realist ontology holding developmental milestones to be socially constructed within specific cultural-ecological contexts whilst simultaneously having real consequences for children and families when deployed in assessment practices (Maxwell, 2012). Children assessed as "developmentally delayed" according to culturally dissonant frameworks experience real consequences (referral for interventions, parental anxiety, altered teacher expectations) regardless of whether assessment accurately represents their competence. The study adopts epistemological pluralism recognising multiple legitimate ways of knowing child development (Chilisa, 2020; Pence & Marfo, 2008). Both Ndebele indigenous knowledge and Western developmental psychology are treated as knowledge systems with distinct epistemological foundations and domains of validity.

The methodological stance embodies decolonial comparative principles (Connell, 2007). The study resists hierarchy between knowledge systems, centres indigenous knowledge as sophisticated epistemology rather than cultural context requiring acknowledgement before "real" analysis proceeds and uses comparison for mutual illumination rather than hierarchical evaluation (Smith, 2021).

### Researcher Positionality

As a Zimbabwean educator of Ndebele heritage with over fifteen years of experience in ECD education and teacher education at Midlands State University, the researcher brings both insider understanding and potential biases. Her upbringing in rural Matabeleland provided direct exposure to traditional child development practices including *inhlonipho* protocols and *izibongo* recitation; her professional training immersed her in Western developmental frameworks. This dual positioning creates "hybridity" facilitating analytical bridging whilst requiring heightened reflexive awareness (Bhabha, 1994). The researcher acknowledges assumptions requiring scrutiny; conviction that indigenous Ndebele developmental knowledge represents sophisticated epistemology deserving recognition and assumptions about standardised tools' inadequacy in African contexts. Mitigation strategies included reflexive journaling, member checking with participants, peer debriefing with colleagues from different backgrounds and systematic attention to disconfirming evidence.

### Decolonial Research Commitments

The study enacted concrete decolonial commitments (Chilisa, 2020; Smith, 2021). Traditional leaders and elders were consulted during research design; the Traditional Leaders Council provided cultural clearance. Knowledge holders were positioned as co-analysts; preliminary findings were shared with participants who contributed interpretations and challenged assumptions. Reciprocity was operationalised through commitments to share outputs in accessible formats including isiNdebele summary reports and community presentations. Language justice was maintained; all community-facing data collection occurred in isiNdebele with back-translation verification.

## 3.2 Study Setting and Site Selection

Matobo District, located approximately 50 kilometres south of Bulawayo in Matabeleland South Province, Zimbabwe, constitutes the bounded context for this study. The district encompasses 4,166 square kilometres supporting approximately 125,000 people across 26 administrative wards (Zimbabwe National Statistics Agency, 2022). The population is predominantly rural (89%) and Ndebele-speaking (96%), with livelihoods centred on agro-pastoral activities including cattle-rearing, goat-herding and drought-resistant crop cultivation (Ndlovu & Msimanga, 2023).

Socio-economic indicators reflect rural marginalisation; extreme poverty affects 68% of households in rural Zimbabwe (ZIMSTAT & World Bank, 2020); adult literacy is 62% compared to 89% nationally, with particularly low rates among grandmothers (42%) who constitute primary caregivers in 38% of households due

to labour migration (Mhaka-Mutepfa, 2018). Matobo holds profound cultural significance as the spiritual heartland of the Ndebele nation, with the Matobo Hills UNESCO World Heritage Site serving as an active centre of ancestral veneration and traditional practices (Chirikure et al., 2013).

The district's ECD landscape comprises 94 registered centres serving children at ECD Level A (age 4–5) and Level B (age 5–7), with some centres accommodating children up to 7 years (Ministry of Primary and Secondary Education, 2023). Governance structures include community-based centres (n=64, 68%), government-run centres (n=22, 23%) and NGO-supported centres (n=8, 9%). Teacher qualifications vary; approximately 35% hold ECD diplomas, 42% completed in-service training and 23% received only workshop-based orientation. All centres implement Zimbabwe's 2015 National ECD Curriculum Framework and conduct assessment using Early Learning Development Standards (Ministry of Primary and Secondary Education, 2015).

Site selection employed purposive sampling guided by four criteria; operational for at least three years; serving predominantly Ndebele-speaking communities ( $\geq 90\%$ ); located in rural areas where traditional practices remain strong; and demonstrating willingness to participate (Patton, 2015). Six ECD centres were selected representing governance diversity; two government-run (ECD-A, ECD-B), two community-based (ECD-C, ECD-D) and two NGO-supported (ECD-E, ECD-F), spanning five wards across northern, central and southern regions.

### 3.3 Participant Selection and Sampling

Participant selection employed purposive sampling strategies to identify information-rich participants across four distinct categories, yielding a total sample of 66 participants (Patton, 2015). Sampling decisions were guided by information power principles rather than predetermined sample size targets (Malterud et al., 2016), wherein sample adequacy was determined by study aim specificity, dialogue quality with knowledgeable participants, theoretical framework application and analytical strategy employed.

Community knowledge holders (n=24) constituted the primary source for documenting traditional developmental milestones. This category comprised three sub-groups reflecting Ndebele traditional authority structures; female elders (*ogogo*, n=12) aged 58–80 years, selected for expertise in early childhood socialisation, with six having served as traditional birth attendants (*Amabulukazi*); male elders (*obabamkhulu*, n=8) aged 61–82 years, selected for cultural knowledge and community leadership experience; and traditional leaders (n=4) comprising one chief (*induna*) with cultural preservation authority and three village heads

(*oSobhuku*) exercising oversight of family welfare and child-rearing standards.

Recruitment followed culturally appropriate protocols essential for indigenous knowledge research (Chilisa, 2020; Smith, 2021). Initial contact occurred through formal engagement with the chief, who granted permission and facilitated introductions to village heads, who then identified elder participants meeting selection criteria; community recognition as cultural knowledge custodians, age 55 years or above, lifelong Matobo residence and having raised children according to traditional practices. This gatekeeper-mediated approach honoured Ndebele protocols whilst ensuring participants held community-validated cultural knowledge. Snowball sampling supplemented initial recruitment for specialised knowledge including traditional birth attendants and spiritual leaders. The sample deliberately included “younger elders” aged 55–65 (n=9) bridging traditional and contemporary periods and “senior elders” aged 75+ (n=6) whose childhood preceded substantial colonial educational influence, enabling generational comparison.

ECD practitioners (n=18) provided data on standardised assessment practices and experiences navigating cultural tensions. Census sampling within selected centres invited all teachers meeting criteria; currently teaching in selected centres, minimum two years' experience and formal training in standardised ECD assessment instruments. Qualifications ranged from ECD diplomas (n=8) to certificates (n=6) to in-service training (n=4). Ages ranged 24–54 years. All were of Ndebele heritage but varied in exposure to traditional practices (some raised in rural Matobo with strong traditional practice, others in urban Bulawayo with minimal exposure) creating valuable variation for understanding how cultural socialisation shapes assessment navigation. Parents and caregivers (n=18) provided perspectives on family experiences of traditional and school-based assessment intersection. Maximum variation sampling yielded 14 mothers (aged 23–38) and 4 grandmothers serving as primary caregivers due to parental migration (aged 58–67), with educational backgrounds ranging from no formal schooling (n=3) through primary completion (n=8) to secondary completion (n=7).

Key informants (n=6) provided policy and expert perspectives; two Ministry curriculum specialists offering authoritative information on national ECD assessment framework development; two district education officers providing implementation perspectives; one traditional chief with cultural preservation responsibilities; and one cultural anthropologist specialising in Ndebele ethnographic research. Sample size adequacy was confirmed through saturation; substantial convergence in reported milestones emerged by approximately the 18<sup>th</sup> community knowledge holder (Guest et al., 2006).

### 3.4 Data Collection Methods

Data collection employed multiple methods enabling triangulation over six months, with overlapping phases allowing iterative probing as preliminary findings informed subsequent questioning. Focus group discussions with community knowledge holders (n=6 FGDs) constituted the primary method for documenting traditional milestones, capitalising on collective knowledge construction when participants share cultural frameworks (Krueger & Casey, 2015). Each FGD comprised 4–6 elders, lasted 90–120 minutes and was conducted in isiNdebele. Four FGDs were gender-segregated to allow culturally comfortable discussion of gender-specific developmental expectations; two mixed-gender FGDs including traditional leaders integrated findings. Cultural protocols were observed; formal greetings (*ukubingelela*), acknowledgement of seniority, request for elders' blessing (*isibusiso*) and provision of refreshments. The chief or designated village head formally sanctioned each session's opening.

Guiding questions explored; "How do you know when a child is developing well?" "What should a child be able to do at different ages?" "What developmental achievements are most important?" "How have these ways of knowing children changed over your lifetime?" Participatory activities included collaborative milestone timeline mapping and elicitation of proverbs and traditional stories (*izaga lezinganekwane*) about child development.

Semi-structured interviews with ECD practitioners (n=18) explored standardised assessment practices and cultural alignment experiences. Interviews lasted 45–60 minutes in English or isiNdebele according to participant preference. Questions examined; assessment tools used and their measurement focus; situations where assessments failed to capture children's competencies; family responses to results; and tensions between professional requirements and community values. Participants shared actual assessment tools for document analysis. Semi-structured interviews with parents/caregivers (n=18) explored how families experience assessment intersection. Interviews lasted 30–45 minutes in isiNdebele, examining how parents recognise development, interpret school assessment results and perceive alignment with home observations. Probing explored specific discrepancies and parental responses.

Key informant interviews (n=6) lasting 60–90 minutes provided policy context with tailored protocols. Ministry specialists addressed framework development rationale and cultural adaptation provisions; district officers addressed implementation challenges; the traditional chief addressed cultural continuity concerns; the anthropologist validated traditional knowledge documentation against ethnographic literature. Document analysis examined Zimbabwe's Early

Learning Development Standards, national ECD syllabus and sample assessment tools from participating centres, systematically extracting developmental indicators by domain, age range and competency type to construct the Standardised ECD Assessment Indicator Inventory (SEAI).

All sessions were audio-recorded with consent. IsiNdebele transcripts were prepared within 48 hours, translated by certified translator with back-translation verification and organised using NVivo 14 software. Data were stored on encrypted, password-protected devices with identifying information stored separately from anonymised transcripts.

### 3.5 Data Analysis

Analysis employed a multi-phase strategy addressing each research question through appropriately matched approaches. Phase 1 employed reflexive thematic analysis (Braun & Clarke, 2019) of FGD transcripts and elder interview data to generate the Traditional Ndebele Developmental Milestone Inventory (TNDMI). Analysis involved immersive familiarisation, descriptive coding of developmental competencies, organisation into domains guided by both inductive emergence and Nsamenang's social ontogenesis framework, identification of age-stage categories and refinement through collaborative sessions with three elder co-analysts.

Phase 2 employed directed content analysis (Hsieh & Shannon, 2005) of policy documents and assessment tools to construct the Standardised ECD Assessment Indicator Inventory (SEAI), coding indicators by domain, age range and competency type. Phase 3 employed systematic comparison using a Developmental Milestone Comparison Matrix mapping TNDMI against SEAI. Analysis identified convergent milestones (similar competencies), divergent milestones (different competencies for same domain) and unique milestones (present in one system only), calculating convergence/divergence percentages by domain. Phase 4 employed thematic analysis of practitioner and parent data focused on consequences of assessment dissonance, connecting themes to dissonance patterns from Phase 3. Analytical rigor was ensured through second coder analysis of 25% of data (Cohen's  $\kappa=.87$ ); member checking with 12 participants; peer debriefing; detailed audit trail; and negative case analysis.

### 3.6 Ethical Considerations

Ethical clearance was obtained from Midlands State University Research Ethics Committee. Research authorisation was granted by Zimbabwe's Ministry of Primary and Secondary Education. Cultural clearance was secured from the Traditional Leaders Council of Matobo District. Informed consent processes were adapted to literacy levels; written forms in isiNdebele

and English; oral consent for limited-literacy participants, witnessed and audio-recorded. Elders received forms in advance for family consultation. Confidentiality protections included pseudonyms, removal of identifying details and centre codes. Traditional leaders who requested acknowledgement provided written consent. Cultural and relational ethics positioned elders as knowledge experts rather than research subjects. Reciprocity included community presentations, isiNdebele reports and practical materials for centres. Research was conducted in community spaces using local assistants.

### 3.7 Trustworthiness and Limitations

Trustworthiness was established through credibility (prolonged engagement, triangulation, member checking, peer debriefing), transferability (thick description), dependability (audit trail, inter-coder reliability) and confirmability (reflexive documentation, negative case analysis) (Lincoln & Guba, 1985). Cultural validity was ensured through alignment with Ndebele protocols and validation by cultural authorities (Chilisa, 2020). Limitations include geographic specificity to Matobo District; temporal snapshot of dynamic practices; translation nuance loss despite mitigation; reliance on community-identified elders potentially reflecting particular perspectives; and researcher positionality creating both affordances and blind spots addressed through systematic reflexivity. These limitations suggest future research directions including cross-ethnic comparison, longitudinal investigation and urban-rural comparison.

## 4. Results and Discussion

### 4.1 Overview

Findings are organised to address each research question sequentially. The Traditional Ndebele Developmental Milestone Inventory (TNDMI) that emerged from community knowledge holder data is presented first (RQ1). A systematic comparison between the TNDMI and standardised ECD assessment indicators follows, identifying patterns of convergence, divergence and omission (RQ2). The consequences of cultural dissonance for assessment practice and child outcomes are then examined (RQ3). Finally, findings are synthesised to propose principles for culturally responsive assessment (RQ4). Throughout, findings are grounded in participants' voices with quantitative summaries provided where appropriate.

### 4.2 Traditional Ndebele Developmental Milestones (RQ1)

Analysis of focus group discussions and elder interviews revealed a sophisticated, multidimensional framework

for assessing child development in traditional Ndebele culture. Community knowledge holders identified 127 distinct developmental milestones across seven interconnected domains, organised into four life stages from birth through pre-puberty. Elders consistently emphasised that child development was viewed holistically, with spiritual, social and moral dimensions inseparable from physical and cognitive growth. As one female elder (age 67, FGD-2) explained: *“You cannot separate the child’s hands from the child’s heart from the child’s spirit. They grow together, or they do not grow at all.”*

#### Domain 1: Physical-Practical Competence (*Amandla omzimba*)

This domain encompasses physical strength, endurance and practical skills for survival and household contribution. For children aged 4–7 years (the ECD A and B focus), key milestones included fetching water with assistance (4 years), helping with grain grinding (4–5 years), herding small livestock independently (5–6 years), collecting firewood (5.5–6 years) and meaningful participation in agricultural tasks (6–7 years). Elders emphasised that practical competence demonstrated multiple developmental dimensions simultaneously. One female elder (age 67, FGD-2) stated: *“We know a child is growing well when they can help. By five years, a child should be able to watch the goats near the homestead. This shows they are responsible and understand danger. If a child cannot do this, we worry.”* Such competencies were understood as demonstrating cognitive development (cause-effect reasoning, danger assessment), social development (contributing to family welfare) and moral development (responsibility); integrated expressions of holistic growth rather than separate domains.

#### Domain 2: Social-Relational Competence (*Ubuntu*)

This domain encompasses appropriate social behaviour, communal identity and relational skills emphasising interdependence. Key milestones for children 4–7 years included sharing food without prompting (4 years), demonstrating *inhlonipho* through appropriate elder greetings (4–5 years), correct use of kinship terms showing relational awareness (4–5 years), mediating minor conflicts among younger children (5–6 years), showing unsolicited empathy (5.5–6 years) and appropriate participation in community gatherings knowing when to speak and when to remain silent (6–7 years).

Social-relational competence was identified as the most important developmental domain by 21 of 24 elder participants. One male elder (age 74, FGD-4) articulated: *“A child who greets properly, who knows how to sit with respect when elders are talking; that child is developing a good heart. We don’t just look at what the child can do with hands, but what is in the heart.”* Another elder stated emphatically: *“You can teach a child to read later, but if they don’t learn ubuntu early, they are lost.”*

**Domain 3: Linguistic-Oral Tradition Competence (Ulimi, izobongo lenganekwane)**

This domain encompasses language proficiency, oral narrative skills and mastery of cultural linguistic forms. Milestones included reciting family lineage back to two generations (4–5 years), telling folktales (*inganekwane*) with narrative coherence (4–5 years), beginning contextually appropriate proverb use (5 years), performing family praise poetry (*izibongo, izangelo lezithakazelo*) from memory (5–6 years), creating original narratives using cultural metaphors (6–7 years) and code-switching between children’s and respectful adult registers (6–7 years).

A traditional leader (age 71) explained: “When a child can stand and recite the izibongo, saying where we come from, who our ancestors are, that child knows who they are. This is not just memory; it is identity.” This domain shows partial overlap with standardised language assessment but emphasises cultural content, oral performance and identity formation rather than vocabulary breadth or print concepts.

**Domain 4: Spiritual-Cosmological Awareness (Ukholo lokwazi amadlozi)**

This domain encompasses understanding of the spiritual world, ancestral relationships and participation in spiritual practices. Milestones for children 4–7 years included knowing which ancestors the family venerates and why (4–5 years), participating in libation-pouring with understanding (4–5 years), showing appropriate reverence in sacred spaces (4–5 years), understanding ancestors’ protection and guidance (5–6 years), explaining family spiritual practices to other children (5.5–6 years) and demonstrating beginning moral reasoning using spiritual frameworks (6–7 years).

One female elder (age 63, FGD-3) emphasised: “Our children must know the amadlozi. When a child understands that the ancestors watch over us, they learn right from wrong. They learn they are part of something bigger than themselves.” This domain was identified by elders as completely absent from school assessment,

creating the most acute cultural dissonance. As one elder stated: “The school measures the child’s head but not the child’s spirit.”

**Domains 5–7: Moral-Ethical Development, Creative-Aesthetic Expression and Gender-Role Competence**

Three additional domains completed the traditional framework. Moral-ethical development (*Ubuntu lesimilo*) encompassed 16 milestones including demonstrating truthfulness despite negative consequences (4–5 years), fairness in resource distribution (5–6 years) and defending community values (5.5–6 years). One male elder (age 79, FGD-1) explained: “We watch how a child behaves when they think no one is looking. That tells us if ubuntu is growing inside them.”

Creative-aesthetic expression (*Ubuciko lemidlalo*) encompassed 14 milestones including performing cultural dances with correct rhythm (4–5 years), creating functional items using traditional techniques (5–6 years) and composing songs incorporating cultural themes (6–7 years). Gender-appropriate role competence (*Imisebenzi yobulili*) encompassed 14 milestones including beginning domestic skills for girls and herding skills for boys by 5–6 years. This domain was notably contested among younger participants, with some elders acknowledging evolving gender norms; it is included as representing the traditional framework whilst noting participants’ own debates about its contemporary relevance.

**Traditional Assessment Methods**

Elders described assessment as fundamentally different from formal testing; continuous observation during daily activities, collective evaluation by extended family and community, comparative assessment against age-mates rather than abstract standards, narrative assessment through storytelling about the child’s development and ritual markers through ceremonies acknowledging developmental transitions. Table 1 summarises the TNDMI by domain.

**Table 1: Traditional Ndebele Developmental Milestone Inventory Summary**

Domain	Milestones (n)	Key Focus (Ages 4-7)	Assessment Emphasis
Physical-Practical	22	Herding, household tasks, agriculture	Family welfare contribution
Social-Relational	24	<i>Inhlonipho</i> , sharing, communal participation	Interdependence, <i>Ubuntu</i>
Linguistic-Oral	19	<i>Izibongo</i> , folktales, proverbs	Cultural identity, oral performance
Spiritual-Cosmological	18	Ancestor knowledge, ritual participation	Spiritual awareness
Moral-Ethical	16	Honesty, fairness, compassion	Character development
Creative-Aesthetic	14	Dance, song, craft	Cultural transmission
Gender-Role	14	Gender-specific competencies	Pole preparation
<b>Total</b>	<b>127</b>		

### 4.3 Comparative Analysis (RQ2)

Systematic comparison of the TNDMI (127 milestones) and the Standardised ECD Assessment Indicator Inventory (SEAI – 89 indicators extracted from Zimbabwe ELDS and assessment tools) revealed three distinct patterns. Overall, only 23% of milestones showed substantive convergence, 41% were divergent and 36% were completely omitted from one system or the other. Entire developmental domains present in traditional assessment were absent from standardised tools and vice versa.

#### Pattern 1: Convergence

Physical-motor development showed greatest convergence (67%), with both systems emphasising gross motor milestones with similar age expectations and fine motor skill development. Linguistic development showed partial convergence (34%); both systems value narrative ability and listening comprehension, but traditional assessment prioritises oral performance, cultural content and lineage memorisation whilst standardised tools emphasise print concepts, phonological awareness and English proficiency. One teacher (age 34, Interview 7) articulated this: *“Both want children to speak well. But in school, they care if the child knows letters. We care if the child knows izibongo. Both are language, but different purposes.”*

#### Pattern 2: Divergence

Social-emotional development showed the highest divergence (only 12% convergence), reflecting fundamentally different cultural conceptions of social competence. Traditional assessment emphasised communal interdependence, *inhlonipho*, sharing, collective participation and social harmony. Standardised tools emphasised individual emotional regulation, independence in self-care, individual problem-solving, expressing individual feelings and parallel/cooperative play with same-age peers. One female elder (age 68, FGD-5) articulated the core divergence: *“In the school papers, they want a child to do things alone, alone, alone. ‘Can the child dress*

*himself?’ ‘Can the child solve the problem by himself?’ But we teach children that we do things together. A child who always wants to be alone, we worry about that child. But school says that is ‘independence’ and it is good.”* Teachers experienced this divergence as a professional dilemma. One practitioner (age 29, Interview 12) explained: *“I have a boy who always makes sure everyone has food before he eats. In our culture, this is excellent development; he has ubuntu. But on the checklist, I must mark if he ‘feeds himself independently without assistance.’ Because he waits for others, sometimes I mark him as not independent. But he IS competent; just in a different way.”*

#### Pattern 3: Omission

The most consequential finding was systematic omission of entire domains. Spiritual-cosmological development had zero representation in standardised tools (all 18 traditional milestones absent). Moral-ethical development showed near-complete omission (5%), with standardised tools occasionally mentioning “shares with others” but providing no systematic assessment of moral reasoning, honesty, or compassion. Practical survival competencies showed minimal representation (8%), with traditional milestones demonstrating advanced cognitive skills (danger assessment, resource management) entirely unrecognised. One male elder (age 71, FGD-6) observed: *“The school tests if a child can count blocks. But can they count goats? That is also mathematics. Can they know when the rains will come by watching the clouds? That is also science. But school doesn’t see this.”* Conversely, print literacy concepts heavily emphasised in standardised tools (letter recognition, print awareness, writing) had no traditional milestones, reflecting the historically oral culture. Elders did not view literacy as unimportant but did not traditionally assess it in early years. One teacher (age 41, Interview 5) captured the resulting tension: *“Parents are confused when I say their child is ‘behind’ because he doesn’t know his letters at age 4. They say, ‘But he can count all 23 goats and tell you which one is missing.’ And they’re right; that’s actually harder cognitively. But my assessment tool doesn’t have a box for that.”* Table 2 presents the quantitative comparison.

**Table 2: Domain-by-Domain Convergence Analysis**

Domain	Traditional (n)	Standardised (n)	Convergence	Pattern
Physical-Motor	22	18	67%	High convergence
Linguistic	19	16	34%	Moderate convergence
Social-Relational	24	15	12%	High divergence
Cognitive	14	22	28%	Moderate divergence
Spiritual-Cosmological	18	0	0%	Complete omission
Moral-Ethical	16	1	5%	Near-complete omission
Practical-Survival	14	2	8%	Near-complete omission

Print Literacy	0	15	0%	Absent	in
<b>Overall</b>	<b>127</b>	<b>89</b>	<b>23%</b>	traditional	

The divergence reflects fundamentally different developmental endpoints; standardised tools orient development toward individual academic achievement and independence; traditional assessment orients toward communal responsibility and cultural continuity. As one elder (age 72, FGD-2) summarised: “School wants to make a child who can stand alone. We want to make a child who knows how to stand with others.”

#### 4.4 Consequences of Cultural Dissonance (RQ3)

The cultural dissonance documented above generates concrete, consequential outcomes across multiple levels. Analysis revealed four major consequence categories.

##### Deficit Labelling and Misidentification

Children demonstrating advanced traditional competence were systematically assessed as delayed by standardised tools. One teacher (Interview 14) described: “I have a girl, age 5, who can recite her entire family lineage, knows all the ancestors’ names, can lead prayers with perfect language. Her grandmother says she is very advanced. But she scores ‘below expected’ in language because she doesn’t know letter sounds. The checklist says she’s delayed. But she’s brilliant; the tool just doesn’t see what she can do.” Review of assessment records from two centres (n=47 children) revealed that 34% (n=16) were labelled “needs support” or “below standard.” Teachers reported that 12 of these 16 children (75%) demonstrated advanced competence in traditional domains not captured by tools, suggesting a potential misidentification rate of 25.5%.

##### Family-School Tension

Assessment dissonance created significant friction. Of 18 parent interviews, 16 expressed confusion and frustration (“Teacher tells me my child is not doing well. But at home, everyone says she is growing perfectly. Who should I believe?” – Parent Interview 3), 13 perceived cultural dismissal (“School doesn’t care about our ways” – Parent Interview 11) and 9 reported reduced engagement with ECD centres. Five of six centres reported declining parental attendance at developmental

meetings. One elder (FGD-4) summarised: “There is a wall now between school and community. We used to all raise children together. Now school has its way, we have our way. This is not good for children.”

##### Teacher Professional Dissonance

Practitioners of Ndebele heritage experienced significant professional and emotional strain. Of 18 teachers, 17 reported epistemological conflict (“I feel torn; my head says one thing, my heart says another” – Interview 9), 14 described ethical distress about marking culturally competent children as “not yet competent” (Interview 4) and 11 expressed professional powerlessness when raising concerns with supervisors (“They say, ‘These are evidence-based international standards.’ I feel like my knowledge of my own culture doesn’t count” – Interview 16). Teachers developed coping strategies; dual assessment with informal traditional assessment alongside formal standardised (8 teachers), creative interpretation adapting indicators to recognise cultural equivalents (6 teachers) and compartmentalisation (“I do what the form says at school, but I tell parents privately what I really think” – 4 teachers).

##### Cultural Devaluation and Erosion

Most profoundly, assessment tools that systematically ignore traditional competencies communicate an implicit message; these competencies do not matter. One traditional leader warned: “When children see that school doesn’t test if you know izibongo, if you can show inhlonipho, if you understand amadlozi; children learn these things are not important. This is how culture dies.” A female elder (age 76, FGD-3) observed with evident pain: “My grandchildren used to be proud when they learned to herd goats. Now they say, ‘That’s not real learning, gogo. Real learning is at school with books.’ This breaks my heart.” One parent (Interview 6) reported: “My daughter said she doesn’t need to learn amaculo because ‘that’s not on the test.’ She’s only 5 years old but already thinking this way.” What gets assessed gets valued; what remains unassessed becomes invisible; assessment functioning as de facto cultural policy. Table 3 summarises consequences across stakeholder groups.

**Table 3: Consequences of Cultural Dissonance by Stakeholder Group**

Stakeholder	Primary Consequences	Prevalence
Children	Deficit labelling; invisible strengths; identity confusion	25.5% potential misidentification
Parents	Confusion; distrust; reduced engagement	16/18 (89%) reported concerns
Teachers	Epistemological conflict; ethical distress; powerlessness	17/18 (94%) reported conflict
Community	Cultural devaluation; transmission interrupted	All elder FDGs reported concerns

## 4.5 Principles for Culturally Responsive Assessment (RQ4)

Whilst detailed framework development extends beyond this study's scope, analysis suggests eight foundational principles for culturally responsive developmental assessment. These emerged inductively from participant recommendations and deductively from the theoretical framework.

- **Principle 1: Epistemic Pluralism.** Recognise multiple legitimate ways of knowing child development. As one parent (Interview 13) expressed: *“Can't children be good at both ubuntu and books?”*
- **Principle 2: Domain Expansion.** Include spiritual, moral and practical competencies alongside cognitive, linguistic and physical domains.
- **Principle 3: Cultural Embeddedness.** Assessment indicators should reflect competencies meaningful within the child's actual cultural-ecological context rather than decontextualised abstractions.
- **Principle 4: Communal Assessment.** Include family and community knowledge holders as co-assessors. One elder (FGD-5) stated: *“If you want to know if our children are developing well, you must ask us, the grandmothers. We have watched children for 70 years. But no one from education office has ever asked us.”*
- **Principle 5: Holistic Integration.** Assess the whole child in context, recognising domain interconnection rather than fragmenting into isolated skills.
- **Principle 6: Language Justice.** Assessment must occur in home language with culturally appropriate communication, not merely translated English instruments.
- **Principle 7: Strengths-Based Orientation.** Identify and build on cultural strengths rather than positioning traditional competencies as deficits. One teacher (Interview 7) articulated: *“What we need is assessment that sees the whole child; the child who can read AND the child who can herd. Both show intelligence.”*
- **Principle 8: Dynamic Contextual Validity.** Assessment validity must be determined by alignment with cultural-ecological context and valued developmental endpoints, not universal psychometric criteria alone.

These principles point toward integrative assessment creating “third space” (Bhabha, 1994) where indigenous and scientific frameworks engage in genuine dialogue rather than competition, honouring both knowledge systems whilst serving children's developmental needs within their actual cultural ecologies.

## 4.6 Discussion

This study documented profound cultural dissonance between traditional Ndebele developmental assessment frameworks and the standardised Early Childhood Development (ECD) assessment tools mandated in Zimbabwean schools. The findings reveal that this dissonance extends far beyond superficial variation in milestones; it reflects fundamentally divergent epistemologies of child development, each rooted in distinct cultural ontologies and macrosystem values. Traditional Ndebele knowledge systems, crystallised in the Traditional Ndebele Developmental Milestone Inventory (TNDMI), prioritise relational interdependence, practical contribution, moral-spiritual grounding and communal personhood (*ubuntu*). In contrast, standardised tools embed Western-derived emphases on individual autonomy, decontextualised cognitive skills and early print literacy. In this section, we interpret these findings through the study's dialogical theoretical framework (integrating Bronfenbrenner's bio-ecological systems theory and Nsamenang's social ontogenesis), situate them within broader cross-cultural and decolonial scholarship, examine implications for policy and practice, acknowledge limitations and propose directions for future research. Collectively, the analysis highlights that culturally dissonant assessment constitutes not merely a technical measurement flaw but a structural form of epistemic injustice with enduring consequences for children, families and cultural continuity.

### 4.6.1 Theoretical Contributions

#### Advancing Nsamenang's Africentric Developmental Theory

This study makes three substantive contributions to A. Bame Nsamenang's (1992, 2006, 2008) theory of social ontogenesis. First, it addresses critiques of insufficient empirical grounding in specific cultural contexts (Mkhize, 2006) by providing thick, contextually embedded documentation of developmental milestones within one African ethno-cultural setting. The TNDMI's 127 age-graded milestones across seven interconnected domains offer a concrete operationalisation of Nsamenang's abstract principles of “becoming human” through progressive integration into communal life. For example, milestones in the Social-Relational (*Ubuntu*) and Physical-Practical domains translate social ontogenesis into observable competencies such as unsolicited sharing (age 4), independent livestock herding with risk assessment (ages 5–6) and mediation of minor conflicts; each understood as multifaceted expressions of adaptive competence and relational personhood.

Second, the study extends Nsamenang's framework from developmental processes and enculturation to the domain of developmental assessment. It demonstrates how social

ontogenesis generates distinctive assessment logics; continuous, distributed observation by elders and community members within authentic activity settings, rather than decontextualised tasks or standardised checklists. Traditional assessment emerges as narrative, holistic and collective (centred on storytelling about a child's responsible contribution or mastery of *izibongo*) thereby shifting Africentric theory toward applied epistemology and practice.

Third, the findings foreground spiritual-cosmological and moral-ethical development as distinct, elaborate domains of equal status to physical or cognitive growth. While Nsamenang acknowledged spiritual dimensions, the data elevate them, documenting 18 spiritual milestones (e.g., knowledge of ancestral lineages and ritual participation) and 16 moral-ethical milestones (e.g., truthfulness despite consequences) that elders consistently ranked as foundational to ubuntu. This empirically substantiates calls for expanded developmental domains in non-Western contexts (Super & Harkness, 2015) and enriches social ontogenesis by illustrating the inseparability of spiritual awareness from moral reasoning and communal integration.

#### **Extending Bronfenbrenner's Bio-Ecological Systems Theory**

The study advances Urie Bronfenbrenner's (1979; Bronfenbrenner & Morris, 2006) bio-ecological systems theory in two significant ways. First, it elucidates the macrosystem–assessment linkage. While Bronfenbrenner's framework has illuminated cultural influences on development, this research demonstrates that assessment instruments are themselves material artefacts encoding macrosystem values. When tools developed within a Western macrosystem (prioritising autonomous self-regulation and individual achievement) are imposed on children developing within a Ndebele macrosystem, they generate ecologically invalid judgments by rendering culturally salient competencies (e.g. *inhlonipho* protocols, communal contribution) invisible or pathologised. This extends the theory into critical scholarship on assessment validity.

Second, the chronosystem receives nuanced historical elaboration. The findings trace a trajectory from pre-colonial communal observation and elder authority, through colonial imposition of Western psychological frameworks, to post-independence retention of Western-derived Early Learning Development Standards (ELDS). This historical lens reveals assessment dissonance as the sedimentation of power relations rather than a neutral technical choice, thereby opening pathways for decolonial reconfiguration.

#### **Contributions to Comparative Education and Assessment Validity Theory**

Methodologically, the study enacts Bartlett and Vavrus's (2017) "horizontal comparison," positioning indigenous

and standardised systems side-by-side for mutual illumination rather than hierarchical evaluation. This offers a replicable template for decolonial comparative research. Conceptually, it proposes cultural-ecological validity as an essential criterion alongside conventional psychometric property. An instrument may demonstrate high reliability and construct validity in its culture of origin yet yield near-zero ecological validity when transplanted across macrosystems. Validity, therefore, is inherently context-dependent, contingent upon alignment with the child's actual cultural-ecological developmental endpoints (Rao et al., 2019).

#### **4.7 Situating Findings in Broader Literature**

##### **Alignment with Existing Cross-Cultural Developmental Research**

The patterns documented here resonate strongly with and extend, a robust body of Africentric and cross-cultural scholarship on indigenous developmental ethnotheories. Serpell's (1993, 2011) programmatic research among the Chewa of Zambia demonstrated that local conceptions of intelligence (*nzelu*) foreground social responsibility, practical competence and contribution to communal welfare over abstract reasoning or decontextualised cognitive tasks; paralleling the prominence of our Social-Relational (*Ubuntu*) and Physical-Practical domains. Similarly, Mkhize's (2006) work on Zulu child-rearing illuminated ubuntu-informed emphases on interdependence, moral-relational maturation and communal harmony, echoing elders' assertions that true developmental competence lies in knowing "how to stand with others."

LeVine et al.'s (1994) ethnographic studies in East Africa highlighted agricultural and domestic competencies as central developmental priorities, consistent with participants' integration of herding, grain-grinding and resource management as holistic markers of cognitive, moral and social growth. These convergences affirm that many African developmental niches (Super & Harkness, 1986) privilege relational personhood, practical mastery and moral-spiritual grounding, in contrast to the autonomous individualism and print-literacy preparation embedded in Western-normed ECD frameworks (Keller, 2018; Nsamenang, 2006).

##### **Novel Contributions**

This study advances the literature in three key respects. First, while prior work has often engaged indigenous values at a conceptual or ethnographic level, the TNDMI provides the first systematic, age-graded inventory of 127 specific traditional Ndebele milestones. Second, the domain-by-domain comparison matrix quantifies modest convergence (23%), substantial divergence (41%) and significant omission (36%), with entire domains (notably spiritual-cosmological) absent from standardised tools. Third, the analysis empirically traces material consequences (deficit labelling [estimated 25.5%

potential misidentification], family-school tension [reported by 89% of parents], practitioner epistemological conflict [94% of teachers] and cultural devaluation) thereby grounding longstanding theoretical critiques in documented psychosocial and educational outcomes.

### **Contribution to ECD Assessment Literature**

The findings offer robust empirical substantiation for critiques of the universalist paradigm in early childhood assessment (Rogoff, 2003; Greenfield, 2009; Sayre et al., 2015). Rogoff's cultural-historical perspective (that competencies are culturally organised rather than universally staged) is illustrated in divergent conceptualisations of social-emotional development; traditional assessment valorises mixed-age collaboration and *inhlonipho*, while standardised tools privilege individual self-regulation and parallel play. Greenfield's concerns regarding cultural bias are operationalised through specific mechanisms, including the systematic under-recognition of practical-survival competencies that demand sophisticated spatial reasoning, numerical competence and risk assessment. Importantly, where much scholarship has remained at the level of critique, this study supplies granular comparative data specifying precisely which domains and indicators are distorted, minimised, or erased when Western-normed instruments are applied in non-Western ecologies.

### **Contribution to Decolonial Education Scholarship**

The study operationalises Fricker's (2007) framework of epistemic injustice in the context of educational assessment. Testimonial injustice occurs when elders' culturally grounded evaluations of children's competence are systematically subordinated to the purported objectivity of standardised checklists. Hermeneutical injustice arises because core Ndebele concepts (*inhlonipho*, *ubuntu*, *amadlozi*) lack equivalent terms in ELDS discourse, rendering them conceptually invisible. Extending Smith's (2012) decolonising methodologies, the analysis demonstrates how assessment tools can function as mechanisms of epistemicide (Santos, 2014) and subtle cultural erasure.

### **Zimbabwe-Specific Contributions**

In Zimbabwe, the findings expose a persistent disjuncture between policy rhetoric and implementation. Despite the 2004 Education Act and 2015 Curriculum Framework's nominal commitments to cultural appropriateness and indigenous knowledge integration, mandated tools remain largely unmodified Western imports. This exemplifies Takayama et al.'s (2017) "policy borrowing without translation"; the adoption of global ECD frameworks without meaningful cultural adaptation.

### **Contradictions to Some Literature**

One notable nuance challenges certain pan-African generalisations concerning gender socialisation. Foundational Africentric scholarship, including Nsamenang (1992) and collaborative work with Lamb (Nsamenang & Lamb, 1994, 1995), along with broader syntheses in the Handbook of African Educational Theories and Practices (Nsamenang & Tchombe, 2011), has often portrayed gender-role differentiation as relatively stable and functionally complementary, with boys and girls socialised into distinct productive and reproductive roles from an early age as preparation for adult communal responsibilities. In contrast, this study's data reveals contestation and evolutionary fluidity. Younger elders (aged 55–65) and some senior participants actively debated the contemporary relevance of certain traditional gender-specific milestones, citing influences from formal schooling, labour migration, economic pressures and shifting social norms. This suggests greater intra-cultural hybridity and generational dynamism than is sometimes assumed in pan-African syntheses. Such variation highlights the imperative for fine-grained, context-specific documentation rather than essentialising "African" developmental frameworks as monolithic or static. It further highlights the adaptive, responsive character of indigenous knowledge systems amid historical and socio-economic change, cautioning against both romanticisation and homogenisation of tradition.

## **4.8 Implications for Policy and Practice**

### **For National Education Policy in Zimbabwe**

The findings carry direct implications for Zimbabwe's ECD policy landscape. First, the Ministry of Primary and Secondary Education should undertake a systematic policy-practice alignment audit to bridge the gap between rhetorical commitments to cultural relevance and the persistence of unmodified Western-derived tools. Second, development of a nationally expanded ECD assessment framework is warranted; one that incorporates domains from both traditional and scientific perspectives (including spiritual-cosmological and moral-ethical competencies) while allowing for ethnic-specific indicators across major Zimbabwean groups. The TNDMI can serve as an empirical foundation for the Ndebele component. Third, formal structures for community participation should institutionalise elders and traditional leaders as co-designers and co-assessors. Fourth, assessment reporting should transition from deficit-oriented checklists to strengths-based developmental profiles that document competencies across multiple epistemological systems.

### **For ECD Teacher Education and Professional Practice**

Teacher education curricula require substantive revision to include critical examination of cultural assumptions embedded in assessment instruments, training in culturally responsive practices and immersive engagement with indigenous developmental knowledge. In-service professional development should equip practitioners with interim dual-documentation strategies (retaining mandated tools for accountability while systematically recording traditional competencies) and skills for productive family-community dialogue. At the centre level, practitioners should cultivate partnerships with grandparents and elders in co-assessment processes, thereby mitigating the epistemological and ethical distress reported by the majority of teachers.

### **For International Development Organisations**

Multilateral and bilateral organisations supporting ECD in Africa (e.g. UNICEF, World Bank) must move beyond superficial translation of tools to mandate rigorous cultural validation and fund co-creation of locally grounded alternatives. One-size-fits-all global standards should yield to recognition of indigenous knowledge systems as sophisticated parallel epistemologies rather than obstacles to “modern” development.

### **For Community and Traditional Leadership**

Traditional leaders and knowledge holders are encouraged to assert their expertise by preserving developmental knowledge, engaging proactively with schools and advocating for formal recognition within the education system.

### **For Researchers**

Parallel studies employing similar methodologies across other Zimbabwean ethnic groups are urgently needed to construct a comprehensive national evidence base, paving the way for design-based research on integrated assessment tools.

## **4.9 Study Limitations**

Several limitations should be acknowledged. The findings are geographically and culturally specific to rural Matobo District Ndebele communities; patterns in urban Ndebele settings or among other Zimbabwean ethnic groups (e.g. Shona, Tonga) may differ, although thick description facilitates analytic transferability. Indigenous knowledge was documented at a particular historical moment (fieldwork circa 2025); while generational shifts were captured, knowledge systems are inherently dynamic and there is a risk of essentialisation if findings are treated as timeless. Gatekeeper-mediated sampling of elders may have

privileged more conservative perspectives, although purposive variation in age, gender and locale was incorporated.

Translation from isiNdebele to English, despite rigorous back-translation, inevitably entails interpretive loss; core concepts such as *inhlonipho*, *ubuntu* and *amadlozi* resist precise equivalence, raising the possibility of subtle semantic distortion. As a Zimbabwean scholar of Ndebele heritage with hybrid insider–outsider positioning (shaped by rural upbringing in Matabeleland and professional training in Western frameworks) my perspective afforded unique analytical bridging yet may have heightened sensitivity to certain dissonances; reflexive practices, member checking and elder co-analysis mitigated but could not fully eliminate this influence.

The cross-sectional design precludes insight into longitudinal trajectories or evolving knowledge transmission. Analysis focused on Zimbabwe’s specific ELDS-derived tools and did not encompass the full spectrum of international instruments. Consequence evidence relies primarily on participant narratives and a modest sample of records (n=47); while triangulated and theoretically grounded, stronger causal claims require further verification. Despite decolonial commitments, academic publication norms retain power asymmetries regarding authorship and knowledge dissemination. Finally, the study identified problems and principles but did not test interventions; the efficacy of culturally integrated approaches remains an open empirical question.

## **4.10 Future Research Directions**

Immediate priorities include replicating the methodology across Zimbabwe’s diverse ethnic communities to build a robust national indigenous knowledge base, followed by collaborative design-based research to co-develop, pilot and validate integrated assessment prototypes that establish both psychometric rigour and cultural-ecological validity. Longitudinal studies are needed to examine how assessment dissonance (or responsiveness) shapes children’s educational trajectories, identity formation and family-school relations. Intervention research should evaluate professional development programmes aimed at enhancing teachers’ cultural competence in assessment.

Broader directions encompass cross-national comparisons with other African and non-African indigenous systems, urban-rural analyses of hybridisation processes and policy implementation studies should culturally responsive frameworks be adopted. Methodological innovations (such as photovoice, participatory video and multi-modal documentation) could capture competencies difficult to articulate verbally. Quantitative extensions might quantify misidentification prevalence and correlate

dissonance with child outcomes. Ultimately, these efforts should contribute to a more elaborated theory of cultural-ecological assessment validity capable of guiding equitable practice in diverse global contexts.

## 5. Conclusion and Recommendations

### 5.1 Conclusion

This study set out to examine cultural dissonance between traditional Ndebele developmental assessment frameworks and standardised ECD tools in Matobo District, Zimbabwe. What emerged was not merely a catalogue of differences but a revelation of fundamental epistemic divergence with far-reaching consequences for children, families, educators and cultural continuity.

Systematic comparative analysis identified a sophisticated traditional Ndebele knowledge system encompassing 127 milestones across seven domains; including spiritual-cosmological, moral-ethical and practical-survival competencies entirely absent from standardised instruments. Convergence between the two systems was modest (23%), with pronounced divergence in socio-emotional domains and systematic omission of entire epistemological categories. These mismatches produced tangible harms; deficit labelling of culturally competent children (estimated 25.5% potential misidentification), family-school distrust, practitioner ethical distress and intergenerational devaluation of indigenous knowledge. In response, the study articulated eight foundational principles for culturally responsive assessment grounded in epistemic pluralism, cultural embeddedness and communal participation.

Theoretically, the research makes three core contributions. First, it provides empirical specificity and operational depth to Nsamenang's Africentric theory of social ontogenesis, illustrating how its principles manifest in concrete assessment practices. Second, it extends Bronfenbrenner's bio-ecological framework by demonstrating how macrosystem values embedded in assessment tools generate ecological invalidity when imposed across cultural contexts. Third, it advances decolonial scholarship by operationalising epistemic (in)justice concepts within the everyday technologies of early childhood education.

For Zimbabwe and other nations navigating similar tensions, the findings indicate that current assessment practices are not merely imperfect but systemically misaligned with the cultural ecologies in which many children develop. Policy commitments to cultural relevance must translate into substantive changes in tools, training and participation structures. Communities possess rich, internally coherent developmental epistemologies that warrant recognition as legitimate parallel knowledge systems rather than relies to be superseded.

Beyond technical debates, the study illuminates how ostensibly neutral educational instruments can encode cultural power and enact epistemic violence. When a child who herds goats with precision, demonstrates profound *inhlonipho*, recites *izibongo* with confidence and understands ancestral guidance is labelled "below expected" because letter recognition is absent, assessment becomes a vehicle for cultural erasure. That is not a measurement error. It is a structural injustice.

An elder's observation captures the stakes with quiet precision: school "measures the child's head but not the child's spirit." At issue is not only measurement accuracy but cultural survival, identity formation and communities' right to define developmental competence on their own terms. This study does not advocate rejecting scientific developmental insights nor romanticising tradition. Both knowledge systems hold value; neither is sufficient alone. The imperative is genuine epistemic dialogue; creating a "third space" (Bhabha, 1994) in which indigenous and scientific frameworks engage as equal partners in understanding and supporting children's growth.

Such dialogue demands epistemic humility from global institutions that have long universalised their frameworks, assertive knowledge activism from African communities, methodological creativity from researchers and policy courage from education leaders. Recall five-year-old Sibusiso guiding his goats through rocky terrain, greeting elders with practised respect and reciting his clan praises; thriving by every metric his community values, yet rendered deficient by standardised criteria. He is not delayed. He is brilliantly competent, albeit in ways rendered invisible by culturally dissonant tools. Until assessment systems learn to see and honour such competence, mislabelling will persist, families will be alienated, teachers will remain torn and colonial legacies will endure in institutions intended to nurture Africa's future.

This study has illuminated the problem in one community. The collaborative work of co-creating responsive assessment frameworks, honouring both indigenous wisdom and scientific integrity, now urgently beckons. As elders articulated, school seeks a child who can stand alone; community seeks one who knows how to stand with others. The path forward lies in learning to assess, and genuinely value, children capable of both.

### 5.2 Recommendations

The findings of this study generate specific, stakeholder-directed recommendations organised across five levels of the educational system. These are not abstract ideals; they emerge directly from documented patterns of dissonance and their consequences.

### **For the Ministry of Primary and Secondary Education, Zimbabwe**

1. A systematic policy-practice alignment audit should be commissioned to investigate the persistent gap between the cultural relevance rhetoric embedded in the 2004 Education Act and 2015 Curriculum Framework and the continued implementation of largely unmodified Western-derived assessment tools. This audit should produce a binding implementation plan with clear timelines.
2. The national ECD assessment framework should be formally expanded to incorporate spiritual-cosmological, moral-ethical and practical-survival developmental domains alongside existing cognitive, linguistic and physical domains. The Traditional Ndebele Developmental Milestone Inventory (TNDMI) generated by this study provides an empirically grounded starting point for the Ndebele-specific component of such a framework.
3. Formal institutional structures must be created to enable elders, traditional leaders and extended family members to participate as recognised co-designers and co-assessors in developmental evaluation processes. Community developmental knowledge should carry documented weight in assessment outcomes, not merely advisory status.
4. Assessment reporting formats should shift decisively from deficit-oriented checklists toward strengths-based developmental profiles that document children's competencies across both indigenous and scientific epistemological frameworks, giving families a complete and culturally honest picture of their children's growth.

### **For ECD Teacher Education Institutions**

1. ECD teacher education curricula across Zimbabwean universities and teacher training colleges require substantive revision to include critical examination of cultural assumptions embedded in standardised assessment instruments, direct engagement with indigenous developmental knowledge systems and practical training in culturally responsive documentation strategies. This cannot remain an elective or supplementary module; it belongs at the centre of professional preparation.
2. In-service professional development programmes should be designed and delivered to equip practising teachers with dual-documentation approaches that maintain mandated tools for formal accountability whilst systematically recording traditional competencies. Equally, teachers need structured support for conducting culturally sensitive developmental conversations with families whose knowledge has historically been dismissed by formal schooling.

### **For International Development Organisations**

1. Multilateral and bilateral organisations supporting ECD across Africa (including UNICEF, the World Bank and bilateral development agencies) must move well beyond linguistic translation of existing instruments. Cultural validation should be a mandatory condition of assessment tool adoption, with dedicated funding allocated for the co-creation of locally grounded alternatives. Indigenous knowledge systems deserve recognition as sophisticated parallel epistemologies, not as local variations requiring accommodation before "real" assessment proceeds.

### **For Traditional Leadership and Community Structures**

1. Traditional leaders and cultural knowledge holders across Matobo District and comparable communities are encouraged to take proactive steps in documenting, preserving and transmitting indigenous developmental knowledge to younger generations. Engagement with ECD centres as genuine partners in child assessment, and formal advocacy for community expertise to be recognised within national education policy, represent strategic priorities that communities themselves are best placed to advance.

### **For Researchers**

1. Parallel studies employing comparable methodologies should be conducted across Zimbabwe's diverse ethnic communities including Shona, Tonga and Kalanga groups, to build a national indigenous developmental knowledge base of sufficient breadth to inform policy reform. Cross-ethnic comparison would also reveal whether the patterns documented here reflect pan-Zimbabwean or specifically Ndebele dynamics.
2. Design-based research programmes should follow, working collaboratively with communities to develop, pilot and refine integrated assessment tools that can demonstrate both psychometric credibility and cultural-ecological validity. Longitudinal studies are needed to trace how assessment responsiveness, or the continued absence of it, shapes children's educational trajectories, sense of cultural identity and family engagement with formal schooling over time.

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