

# Adapting MAIN to isiZulu – some reflections on ecological validity

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The Multilingual Assessment Instrument for Narratives (MAIN) was developed as an instrument to assess the narrative skills of children in multilingual and multicultural contexts. The aim was to compile an instrument that is ecologically valid and culturally neutral so it can be used to assess children’s narrative skills regardless of their linguistic, socio-economic and cultural backgrounds. While storytelling occurs in all communities and cultures, storytelling customs may differ from culture to culture. For example, African storytelling is based on oral traditions passed on from one generation to the next. In the Zulu culture, which has a very rich anthology of folktales and oral traditions, stories are often used to teach moral lessons. This paper reflects on the possible challenges that clinicians may encounter when using MAIN to assess young children who may have only been exposed to traditional Zulu folklore stories that differ in structure from the MAIN stories. We also consider the Southern African Story Grammar model that was proposed by Tappe (2018) as a better reflection of African storytelling than the classical Stein and Glenn (1979) story grammar model. We discuss how some aspects of the MAIN stories and assessment procedures may not resemble the typical stories or storytelling customs in traditional isiZulu-speaking populations and therefore compromise the ecological validity of MAIN. In this paper, our focus is on isiZulu, but our questions about the ecological validity of MAIN may also be relevant for other language groups and cultures in the growing international community of MAIN users.

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## 1 Introduction

Narrative assessments are considered to be less biased and more ecologically valid to assess children’s communication skills than formal, standardised tests and protocols (Botting, 2002). Ecological validity refers to the generalisability and representativeness of an assessment, in other words how the assessment results relate to performance outside the test environment and the extent to which the assessment itself resembles the everyday context in which the behaviours will be needed (Dawson & Marcotte, 2017). The Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2019) was developed as an instrument to assess the narrative skills of children in multilingual and multicultural contexts. The developers aimed to compile an instrument that is ecologically valid and culturally neutral so it can be used to assess children’s narrative production and comprehension skills regardless of their linguistic, socio-economic and cultural backgrounds. The instrument can be used to differentiate between typical and atypical narrative skill and investigate the transference of cognitive skills in bilingual speakers.

### 1.1 Theoretical framework of the MAIN

MAIN consists of four parallel stories that are based on a multidimensional model of narrative organisation, which allows the assessment of cognitive abilities such as inferring of protagonists’ goals, internal states and the causality of events. The MAIN stories are based on the story grammar model by Stein and Glenn (1979) which comprises of a story setting and an episodic structure that consists of the following macrostructure components shown in Table 1.

**Table 1:** MAIN Story grammar components: Descriptions and examples (Gagarina et al., 2012)

Story grammar component	Description and examples
Setting statement	Statement(s) that orients the listener to the spatial and temporal aspects of the narrative. Example: <u>One day</u> there was a boy walking <u>by the beach</u> .
Internal state as an initiating event	An internal state of the protagonist or an event that sets the story in motion. Example: The boy was <u>sad</u> that his ball fell into the water.
Goal	A statement that indicates the intention of the protagonist in response to the initiating event and/or state. Example: The boy <u>wanted</u> to get his ball back.
Attempt	A statement indicating the action undertaken by the protagonist to achieve the goal. Example: The boy <u>pulled</u> his ball with a fishing rod.
Outcome	A statement indicating the consequence of the attempt made by the protagonist to achieve the goal. Example: The boy <u>got his ball back</u> .
Internal state as a reaction to the event	A statement defining the internal state of the protagonist in response to the outcome of the attempt. Example: The boy was <u>happy</u> to have his ball back.

But how culture-fluid and therefore ecologically valid is MAIN when used to assess children in linguistically and culturally diverse societies such as South Africa? For instance, it is

generally accepted that retelling is easier for young children as it provides a model for the child and also facilitates the production of longer and complex narratives (e.g. Kadaravek & Sulzby, 2000; Merrit & Liles, 1989). However, young children may find it difficult or confusing when expected to retell a story with a different story structure and format than the traditional folktales they have been exposed to and are familiar with. The question is, to what extent can a young isiZulu-speaking child (a language spoken in South Africa) who has mostly been exposed to traditional folktales Zulu stories, relate to the pictorial and story content of the MAIN?

## **1.2 Adaptations of the MAIN**

The original English version of MAIN has been translated and adapted to more than 70 languages world-wide and implemented in a variety of linguistic and social contexts for the assessment of child language. It can be argued that processes such as back-translation to improve linguistic equivalence between two language versions may still not guarantee functional and/or cultural equivalence (Pena, 2007). Cultural equivalence refers to aspects of content validity and cultural appropriateness of an instrument to ensure cross-cultural understanding of the pictorial and linguistic content. For example, recent additions to the available MAIN picture stimuli, such as adjusting the boy's skin colour (*Cat* and *Dog* stories) and replacing the sausages in the boy's bag with chicken legs (*Dog* story) may have improved the cultural appropriateness of MAIN in the South African context (Klop & Visser, 2020). Functional equivalence would, for instance, require measures to ensure that the isiZulu MAIN elicits constructs such as internal state terms in the same way as the English version.

In this paper, we share our reflections on some of the potential functional complexities of using the MAIN when assessing children who have mostly been exposed to traditional Zulu folktales. We will comment on the following aspects of traditional storytelling and the MAIN, namely interaction during storytelling, opening and closing formulae in narratives, setting statements and internal state terms, against the background of story traditions in the Zulu culture and the proposed Southern African Grammar by Tappe (2018) which is an alternative to the classical Stein and Glenn model (1979).

## **2 Brief overview of isiZulu**

IsiZulu is the most commonly spoken language in South Africa and is the first language of approximately 25% of the population. Zulu speakers are largely concentrated to the province of KwaZulu-Natal, but large populations of Zulu speakers are also found in the Gauteng and Mpumalanga provinces. IsiZulu belongs to a large family of languages known as Bantu languages, which are prominent in Southern Africa. IsiZulu, together with three other South African languages, namely isiXhosa, isiNdebele and SiSwati, are subcategorised as Nguni languages.

Typical of other Bantu languages, isiZulu uses a system of noun classes, in which all nouns belong to a particular noun class. Categorisation of nouns into the different classes is also based on the collective meaning that the nouns in that specific category share (Keet & Khumalo, 2016). For example, nouns referring to humans are predominantly found in noun

class 1 and nouns referring to animals are predominantly found in noun class 9. Noun classes play an essential role in the concordial agreement of the words in sentences (Keet & Khumalo, 2016). IsiZulu sentences follow an SVO order (Keet & Khumalo, 2016).

### 3 Storytelling in the Zulu culture

The tradition of storytelling is a prominent feature of the Zulu culture. Storytelling has been used for many centuries for a variety of purposes such as entertainment, teaching lessons and transmitting time-honoured wisdom across generations. Storytelling is seen as a communal and interactive activity involving different participants, the narrator (usually an elder in the family) and listeners (often children). Stories are usually told around a fire at night (Jiyane, 2017). An umbrella term used to describe these stories in isiZulu is *izinganekwane* ‘folktales.’ *Izinganekwane* usually communicate how certain phenomena came to be (aetiological tales), explain superstitions, and explain the history of certain nations or are told purely for entertainment purposes (Ntuli & Makhambeni, 1995). They typically include moral lessons at the end of the story to educate children. Examples of *izinganekwane* in the Zulu culture are *Urwabu nentulo* ‘The chameleon and the lizard,’ *Impunzi noChakide* ‘The buck and the mongoose’ and *Izimu nesalukazi* ‘The cannibal and the old woman.’ Characters in these stories may typically include *izilwane* ‘animals’ (these may be personified or may have special abilities), *abantu* ‘humans’ and *uMdali* ‘the Creator’ and *uNkulunkulu* ‘God’ (Canonici, 1993; Ntuli & Makhambeni, 1995).

A distinct feature of *izinganekwane* is the performative aspect that is employed by the narrator and the interaction between the audience and the narrator. The narrator tends to perform the emotions and states of beings of the characters and the audience takes active part by responding with chants and interjections. Storytelling is a communal activity, and the focus is on actions rather than linguistic devices to establish and maintain co-referential ties across the reference (Tappe, 2018).

Based on the analyses of traditional folklore tales and narratives from Chichewa/English children in Malawi and isiZulu/English children in South Africa, Tappe (2018) proposed an alternative story grammar model called the Southern African Story Grammar consisting of the components as depicted in Table 3.

Similarities between the Stein and Glenn (1979) model and the Southern African story grammar model are evident as both models include plans, attempts and outcomes. The main differences are that the Southern African story grammar model includes opening and closing formulae typical of African stories, and that the resolution or outcomes are presented in the form of a moral lesson that is meant to be shared with the audience. Major differences found between the models is the absence of setting statements and internal state terms as initiating events or reactions to outcomes in the Southern African story grammar model (Tappe, 2018).

**Table 3:** Story grammar components of the proposed Southern Africa Story Grammar (Tappe, 2018)

Story grammar component	Description
Traditional opening	Traditional opening formula initiated by the narrator and the audience which helps the audience to get ready for the story.
Initiating event	An event that creates the need for the protagonist to take action.
Plan	Intentions formulated by the protagonist based on the initiating event; indication of the intentions of the protagonist.
Attempt	Actions undertaken by the protagonist to achieve the intended plan. The attempts are marked by dialogue and repetitions, which bring in the performative aspect of storytelling.
Consequences or outcomes	The results of the attempts made by the protagonist. This indicates if the goal was achieved or not.
Resolution or outcome	Moral lesson that can be learnt from the story. The moral lessons usually have general or communal significance.
Traditional ending	A traditional closing formula is used to indicate the end of the story and also indicates a return to the real world and binds any mystical creatures to the story's realm.

### 3.1 Interaction during storytelling

Storytelling in the Zulu culture is an interactive activity between the narrator and the audience. In contrast, MAIN includes specific procedures to control for the assumptions of shared knowledge and joint attention between the assessor and the child, for instance procedures such as the folding out of the picture stimuli and letting the child select closed envelopes containing the stories. The rationale behind these measures is that children may provide less complex narratives if they assume that the listener is familiar with the story. The MAIN instructions also limit the allowable prompts and the interaction between the examiner and the child. During the adaptation process of MAIN to isiZulu, we reflected on the potential influence these presentation measures may have on children who are used to stories where the listener is an active participant in the narrative. We wondered if young Zulu children may actually provide more detailed narratives if the examiner responds in a more interactive way.

### 3.2 Opening and closing formulae on Zulu stories

In the Zulu culture, opening and closing statements are essential components of storytelling and contribute to the reciprocal interaction between the narrator and the audience. In the Zulu culture, a typical opening formula to a narrative is *Kwasukasukela* – similar to the conventional ‘once upon a time’ in English stories and it literally means ‘in the beginning’. With this statement, the narrator invites the audience to a fantasy or fictional world and also alerts the audience to prepare themselves to suspend belief (Tappe & Hara, 2013). This opening formula also indicates that the narrative is in the remote past (Tappe & Hara, 2013). The listener(s) usually respond by saying *cosi* ‘little’ to indicate that they are attentive and ready for the narrator to start telling the story. The story is typically concluded with a closing formula, which in isiZulu is typically *cosu cosu yaphela* ‘little by little, it ends’, to indicate that the story has ended and also indicates a return to the real world (Tappe & Hara, 2013). We reflected on the possibility to include these opening and closing formulae when assessing young Zulu children

with MAIN in the retelling and model story options. We speculated that these children may be more likely to assume the role of storyteller if the MAIN stories are more aligned with their traditional way of storytelling.

### 3.3 *Setting statements*

Setting statements that convey the temporal and spatial context where the story events occur are usually absent in Southern African storytelling. In African storytelling the narrator and the audience usually share knowledge about the story context. Thus, it is likely that setting statements may not be included in narratives due to this assumption of shared knowledge (Tappe, 2018). We speculated that that omission of the spatial context in African children's narratives may reflect the assumed shared knowledge between storyteller and audience which is typical of African storytelling. However, the inclusion of the traditional opening formula *Kwasukasukela* 'in the beginning' in the Southern African story grammar model is similar to 'once upon a time' that is included in the Stein and Glenn (1979) model as well and is credited in the Zulu MAIN scoring protocol as a setting statement that provides information about the temporal context of the story.

### 3.4 *Internal state terms*

In the MAIN stories, various categories of internal state terms that denote the inner or mental states of story characters are included as initiating events and reactions in the story structure scoring protocol. In contrast, the emotions and feelings of characters may often not explicitly verbalised in traditional storytelling in Southern Africa. This is because of the performative aspect of traditional storytelling which may involve the narrator conveying the internal states (mainly emotions and feelings) through non-verbal means such as gestures and enaction (Tappe & Hara, 2013). Example (1) demonstrates expression of an internal state without using internal state terms.

- (1) *“Hawu, ngingawadla lamasoseji”, kushoinja ibheke amasoseji womfana.*  
“Wow, I can eat these sausages”, said the dog looking at the boy's sausages.’

The expression *hawu* 'wow' may be interpreted as an expression of being pleasantly surprised. This expression would be used with a high tone to indicate a positive emotion. In (1) above, *hawu* indicates that the dog was pleasantly surprised when it saw the boy's sausages. In other words, the emotions of the characters in the stories may be conveyed not through explicit internal state terms but with expressions typically included as part of the performative aspect of traditional storytelling. We therefore speculated that the internal state terms included in the MAIN protocol may not be sensitive to the various ways that emotions of the characters can be conveyed by young children who may only have been exposed to traditional Zulu stories.

According to Tappe (2018) protagonists in traditional African stories are not seen as distinct individuals with their own thoughts and emotions, but rather as a prototype or schematic representation of a person typically found in society. Therefore, it is likely that children who have only been exposed to traditional African stories may not include internal state terms as initiating and reactions to events. For instance, the boy in the *Dog* story may be seen as a

protagonist who represents all young boys in the community and no particular internal states may be assigned to this character so that the audience could identify with the character. We speculated that the findings of Tappe (2018) and Tappe and Hara (2013) regarding the lack of internal state terms may be a consequence of the traditional stories that they used in their studies. The MAIN pictures and content were designed to clearly portray characters' emotions and the assumption that African children would not assign internal states to them needs to be investigated through research.

#### **4 Conclusion**

To conclude, we have reflected on the possible challenges that clinicians may encounter when using the MAIN to assess young children who may have only been exposed to traditional Zulu stories using some of the perspectives of Tappe's (2018) proposed Southern African story grammar. We have shown that some aspects of the MAIN stories and assessment procedures may possibly not resemble the typical stories or storytelling traditions of young Zulu children who have only been exposed to traditional stories such as the use of opening and closing formulae between the narrator and the audience and the possible exclusion of setting statements (more likely the spatial context) and internal state terms as initiating and reactions to events in traditional Zulu stories. This may possibly compromise the ecological validity of the MAIN in this population and provide an inaccurate reflection of the children's storytelling abilities. These considerations warrant for exploration, through research, of the ecological validity of the MAIN as an instrument to assess narrative abilities in multilingual and culturally diverse societies, such as South Africa. Therefore, our next steps are to conduct studies in monolingual and bilingual Zulu populations, to test the assumptions of the proposed Southern African story grammar model and the speculations in this article, and to examine the ecological validity and functional equivalence of MAIN in these populations.

#### **References**

- Canonici, N. N. (1993). *Iziganekwane: An anthology of Zulu folktales*. Zulu Language and Literature, University of Natal.
- Dawson, D., & Marcotte, T. (2017). Special issue on ecological validity and cognitive assessment. *Neuropsychological Rehabilitation*, 27(5), 599–602. <https://doi.org/10.1080/09602011.2017.1313379>
- Gagarina, N., Klop, D., Kunnari, S., Tantele, K., Välimaa, T., Balčiūnienė, I., Bohacker, U., & Walters, J. (2019). MAIN: Multilingual Assessment Instrument for Narratives – Revised. *ZAS Papers in Linguistics*, 63, 1–36.
- Jiyane, M. (2017). *Narrative text production in L1 IsiZulu/L2 English speaking children from rural KwaZulu-Natal: A case study based on the wordless picture books Abongi's Journey (Saadien-Raad and Rosser, 2004) and Frog, where are you? (Mayer, 1969)*. [Unpublished Master's thesis]. University of KwaZulu-Natal.
- Kaderavek, J. N., & Sulzby, E. (2000). Narrative production by children with and without specific language impairment: Oral narratives and emergent readings. *Journal of Speech, Language, and Hearing Research*, 43(1), 34–49. <https://doi.org/10.1044/jslhr.4301.34>

- Keet, C., & Khumalo, L. (2016). Toward a knowledge-to-text controlled natural language of isiZulu. *Language Resources and Evaluation*, 51(1), 131–157. <https://doi.org/10.1007/s10579-016-9340-0>
- Makhambeni, M., & Ntuli, D. (1998). *Izimpande: (ubucikomazwi besiZulu kuze kufike ku-1993 [Roots: (the wordart of isiZulu until 1993)])*. University of South Africa.
- Merritt, D. D., & Liles, B. Z. (1989). Narrative analysis: Clinical applications of story generation and story retelling. *Journal of Speech & Hearing Disorders*, 54(3), 438–447. <https://doi.org/10.1044/jshd.5403.438>
- Peña, E. D. (2007). Lost in translation: Methodological considerations in cross-cultural research. *Child Development*, 78(4), 1255–1264.
- Tappe, H., & Hara, A. (2013). Language specific narrative text structure elements in multilingual children. *Stellenbosch Papers in Linguistics Plus*, 42, 297–331. <https://doi.org/10.5842/42-0-160>
- Tappe, H. (2018). What about Southern African story grammar? Promoting language specific macrostructures in educational settings. In: Kandybowicz, J., Major, T., Torrence, H., & Duncan, P. T. (Eds.), *African linguistics on the prairie: Selected papers from the 45th Annual Conference on African Linguistics* (pp. 51–64). Language Science Press. <https://doi.org/10.5281/zenodo.1251714>