

# READING IN THE AFRICAN LANGUAGES

## An annotated bibliography

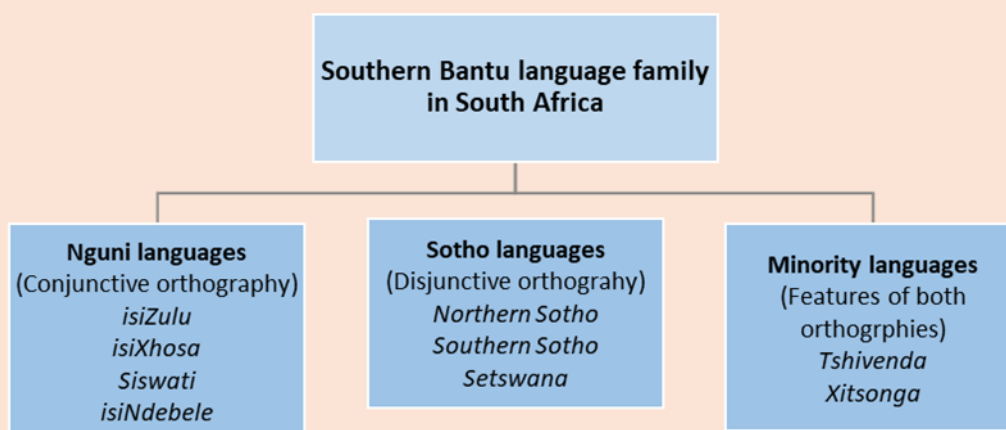
### 2004-2017

compiled by E.J Pretorius  
Department of Linguistics and Modern Languages, UNISA  
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This annotated bibliography was compiled as part of the Primary Teacher Education Project (PrimTEd), which is a component of the Department of Higher Education and Training's (DHET) Teaching and Learning Development Capacity Improvement Programme (TLDCIP), looking to improve initial teacher education in literacy and numeracy.

This annotated bibliography derives from one of the PrimTEd Working Groups, which focuses on developing new teacher graduates' ability to teach African languages and English First Additional language, with a special focus on reading. It comprises 40 annotated entries, mainly research articles from accredited journals, chapters from books and postgraduate dissertations or theses, and also lists several other sources closely related to reading in the African languages. Although it was originally compiled in 2017, it is designed in such a way that new entries can be added to it as new research emerges.

The annotated bibliography gives a summary account of research that has been done on **reading in African languages** from 2004 to 2017, more specifically on languages belonging mainly to the family of Southern African Bantu languages. The African languages in South Africa belong to the family of Southern African Bantu languages. They are all agglutinating languages with a rich morphology, and their orthographies are transparent, with a regular one-to-one mapping between letters and the sounds they represent. However, the orthographies differ in terms of whether nominal and verbal elements are written together as single linguistic units as in the Nguni languages (referred to as a conjunctive orthography) or whether they are written as separate linguistic units as in the Sotho languages (referred to as a disjunctive orthography). The diagram below shows the different language family groupings and the associated orthography.



The annotated bibliography comprises seven parts, as explained below.

The readings have been categorised into seven parts. Parts 1-4 each deal with a specific area within reading research. The seven parts are arranged according to the following headings and sub-headings:

Part 1	Position papers on reading theory and reading research in the African context	
Part 2	Empirical studies on foundational reading skills in African languages (decoding skills)	A: Emergent literacy – the preschool years
		B: Foundation phase
		C: Intermediate phase
		D: High school
		E: Adult readers
Part 3	Comprehension in African languages	A: Foundation phase
		B: Intermediate phase
		C: High school
		D: Adults
Part 4	Clinical research and assessment Nguni languages Sotho languages Venda and Tsonga Other African languages	
Part 5	Teachers and classroom literacy practices in the African schooling context (list of readings)	
Part 6	Reading research in different African languages (cross reference listings)	Nguni languages Sotho languages Venda and Tsonga Other African languages
Part 7	Full list of references	

**Parts 1-4** comprise the *annotated* bibliography. In addition to bibliographic data, the annotation briefly restates the main issues or argument of a source by identifying its main aims or research questions, its principle methods of investigation, and its main findings and conclusions. In the case of specific empirical articles, the participants, research context and measures used will be identified in a table for easy identification.

**Part 1** relates more generally to theoretical issues relating to reading in African languages and to the particular linguistic and orthographic demands that reading in agglutinating languages makes on readers.

**Parts 2 and 3** deal with research into decoding and comprehension respectively in the African languages. As can be seen, the decoding and comprehension aspects of reading are organised according to maturational stages of reading, starting with preschool, Foundation Phase (Grades 1-3), Intermediate Phase (Grades 4-7), high school, and ending with adult readers.

**Part 4** comprises a small and as yet under-researched area dealing with clinical literacy research and assessment in the African languages.

**Part 5**, dealing more broadly with literacy issues related to teachers, teacher development and classroom literacy practices in an African context (often serving high poverty communities) was not originally part of the *annotated* bibliography brief. For further reader interest, articles are listed here but are not annotated.

To enable quick and easy cross checking and searching, the penultimate section, **Part 6** provides a list of all the research articles in the annotated bibliography according to the different African language family groups in which reading research has been done.

The final section, **Part 7**, serves as a reference list of all the articles referred to in the annotated bibliography and is arranged alphabetically.

**NB:** Unlike typical bibliographies, the research articles in Parts 1-4 are arranged **chronologically** rather than alphabetically. This helps to situate the reading research within a recent historical perspective and also helps to identify emerging interests in different aspects of reading research in the African languages at different or overlapping points in time.

For readers not familiar with the South African schooling context, the following are common terms in discussions of literacy:

ECD	Early Childhood Development
Grade R	'R' stands for Reception year, the final year of preschool.
CAPS	Curriculum and Assessment Policy Statement (the curriculum documents)
Foundation Phase	Grades 1-3
Intermediate Phase	Grades 4-7
Senior Phase	Grades 8 and 9
High school	Grades 8-12
LoLT	Language of learning and teaching (i.e. the medium of instruction)

The African languages can be referred to with noun class prefixes attached to the stem, following African linguistic structures (e.g. isiZulu) or without the prefix, following English linguistic structure (e.g. Zulu). Both conventions are officially recognised as acceptable and appropriate.

## **PART 1: POSITION PAPERS ON READING THEORY AND READING RESEARCH IN THE AFRICAN CONTEXT**

The articles reviewed in this section are position papers that argue for a particular theoretical position to be adopted with regard to reading research in the African context, or propose greater sensitivity to the linguistic features of African languages in the design of early instructional reading programmes. Although they include relevant African language examples and refer to empirical findings by scholars in the field, the articles themselves do not present empirical results on a particular reading / literacy study. They are arranged chronologically.

Truddell, B. and Schroeder, L. 2007. *Reading methodologies for African languages: Avoiding linguistic and pedagogic imperialism*. ***Language, Culture and Curriculum***, Vol. 20, No. 3, pp. 165-180.  
<http://dx.doi.org/10.2167/lcc333.0>

**Key words:** language and reading, reading and cognition, reading methodology

Given that learning to read is both a psycholinguistic and a social process, the authors point out that the teaching of reading in sub-Saharan Africa is based on approaches that derive from European languages (mainly English and French) in the West that are linguistically different and are used in socio-culturally different contexts. Such approaches do not serve African learners well. The authors argue for the need to match teaching reading methods with the linguistic features of the languages in which reading is developed. In their paper they draw attention to two aspects that need to be taken into account for teaching reading in African languages, namely linguistic and socio-educational considerations. The linguistic factors relate to types of orthography, and distinctive phonological and morphological features of African languages. Several examples and suggestions for reading instruction are provided to support their argument. With regard to the socio-economic context, the authors suggest that the influence and status of European languages and Western reading methods is so strong that it tends to override confidence in the use of local pedagogies. Expectations about literacy, the training of teachers and the provisioning of resources are also vastly different in African and European contexts, in both formal and non-formal education contexts. Rural contexts in particular call for innovative sustainable literacy teaching that does not depend on extensive pedagogical materials that are not locally available. In sum, the authors call for effective language and context appropriate teaching reading methods that will empower learners to acquire all the skills needed to become independent readers, able to access new knowledge through print.

Schroeder, L. 2013. *Teaching and assessing independent reading skills in multilingual African countries: Not as simple as ABC*. In: Benson, C. and Kosonen, K. (Eds). *Language issues in Comparative Education*, Sense Publishers, pp. 245-264.

**Key words:** deep/shallow orthographies, phonology, morphology, Dual Route model

The author questions whether reading theories and reading methods that are products of research on monolingual English readers are appropriate in multilingual African contexts with different social, economic and linguistic situations. In challenging the adoption of English reading methods for teaching African languages, the author focuses on three linguistic factors that underpin reading methods, namely depth of orthography, and the phonological and morphological properties of languages. In particular, the author argues that the Dual Route Model of Coltheart and Baron (1978, 2005), which posits a phonological and lexical route for word processing, is more applicable to reading in an opaque (or deep) orthography such as English than the transparent (or shallow) orthographies of African languages, where phonological processing is important. The author also refers to features of African languages such as complex consonant phonemes, complex vowels involving tone, length and oral/nasal distinctions, and dense morphology, especially on verbal elements, that pose challenges for reading in African languages, but which are not dealt with in English reading methodology.

Based on these features, the author discusses three implications for reading methodology, viz. the need to attend to the morphological, phonological and orthographical features of African languages when designing reading materials and instructional approaches. The author calls for the need to contextualise reading curricula, instruction and assessment on the African continent and suggests various ways in which learners and teachers can be empowered to become better readers and reading teachers of African languages in ways that are congruent with the African context.

De Vos, M., van der Merwe, K. and van der Mescht, C. 2014. *A linguistic research programme for reading in African languages to underpin CAPS*. **Journal for Language Teaching**, Vol. 48, No. 2, pp. 149-177.  
<http://dx.doi.org/10.4314/jlt.v48i2.7>

**Key words:** psycholinguistics, linguistics, orthography, phonological awareness, morphological awareness, curriculum development

The authors point to the poor state of language and literacy achievement in the South African schooling system, as evidenced in the PIRLS and ANA results. They argue that although literacy research is undertaken in the South African context, very little of it investigates the cognitive-linguistic processes involved in reading, and very little focuses on reading in African languages. They compared research hits on SABINET, a local research database and Ebscohost, an international database. Their findings show that more literacy research is done on macro approaches, with very little done on phonological, morphological and syntactic processes in reading. In particular, far more research has been done on literacy in English and Afrikaans in South Africa than on African languages, which is disproportionate to the demographics of the South African languages. The authors identify and discuss four areas that they regard as requiring urgent attention in the South African context, viz. (i) the effects of non-L1 aligned LoLTs, (ii) the orthographic nature of languages in which reading is developed, (iii) cognitive skills, automaticity and vocabulary development in reading and (iv) norms and reading resources in the African languages. The authors suggest that detailed and theoretically informed investigations of the linguistic nature and cognitive skills involved in reading in African languages can inform language-specific reading pedagogies, the establishment of language-specific reading norms and the development of appropriate reading resources for teaching and learning. This calls for “a process of cross-pollination” between linguists, educators and materials developers.

Pretorius, E.J. 2017. *Getting it right from the start: Some cautionary notes for early reading instruction in African languages*. In: ***Teaching and learning literacy in the 21st century: lessons from around the world***. UNESCO, Paris (in press).

**Key words:** language typology (agglutinating/inflectional/analytic languages), transparent/opaque orthography, disjunctive/conjunctive orthography, the concept of 'word', eye tracking, visual similarity, phonological processing.

In this chapter, it is argued that the inappropriate application of reading instruction in linguistic contexts for which the instruction was not originally intended is a factor that may pose risks to early reading development. The author calls for a principled basis for determining what is appropriate in the reading context, derived from the unique linguistic and orthographic nature of the languages in which reading occurs, specifically when the focus is on developing early decoding skills (i.e. the development of fluent code-based skills on which meaningful comprehension relies).

The first foundational principle for early reading development is to take into account the ways in which African and Western colonial languages are linguistically and orthographically similar and different, and to consider how these might affect best practice in early reading classrooms. Given the complexity of reading, the second and third foundational principles for early reading development relate to the need for converging evidence for claims made about reading development, and the need to be mindful of how reading knowledge is applied in contexts that are different from the original contexts.

Much of what is known about reading comes from a large body of research based on reading in English and other European languages, which are classified typologically on a continuum, according to whether they have greater or fewer analytic or inflectional morphosyntactic features. They also differ with regard to how transparent or opaque their orthographies are. Increasingly, research into reading in languages that are typologically different, such as Turkish, Finnish, Basque and African languages, is making its way into academic reading journals. These languages differ in that they are agglutinating languages. Instructional practices that may work for inflectional languages with opaque orthographies may not be suited to syllabic, agglutinating African languages with transparent orthographies. The author identifies and discusses four orthographic features and considers their implications for early reading instruction in agglutinating African languages, viz. alphabetic transparency, the notion of a 'word', word length, and visual discrimination. Differences in the typology and orthography of a language may affect eye movements, the way in which words are recognised, and the role of phonological and morphological processes during reading.

Finally, the author identifies some issues that have a bearing on early reading in the African languages, with regard to early instruction in general (particularly decoding), the development of reading materials, the establishment of reading norms in the early grades, and teacher training. In conclusion, the author cautions that calling for attention to be paid to the linguistic and orthographic nature of the languages in which reading is taught in no way minimises the importance of all the other contextual factors that are critical in early reading development and that enable its development.



## **PART 2: EMPIRICAL STUDIES ON FOUNDATIONAL READING SKILLS IN AFRICAN LANGUAGES**

The articles reviewed in this section relate to the development of foundational reading skills in African languages across all levels of formal schooling in the South African context. By foundational reading skills is meant specifically the cognitive-linguistic skills that underpin **decoding**. The articles in this section include preschool (e.g. Grade R), early primary school (referred to in South Africa as the Foundation Phase, Grades 1-3), the Intermediate and Senior primary school (Grades 4-7), high school (Grades 8-12). Adults refer to readers older than high school students.

The articles are presented chronologically.

## **PART 2A: EMERGENT LITERACY – THE PRESCHOOL YEARS**

The articles reviewed in this section relate more specifically to the development of language and literacy skills in African languages at preschool level. Although the domain of Early Childhood Development (ECD) has received more attention and undergone some major changes in South Africa in recent years, and emergent literacy in the preschool years has received increased attention in local journal articles, very little of this research has empirically investigated aspects of language and literacy skills in *African* languages at this level.



Ntuli, C.D. and Pretorius, E.J. 2005. *Laying foundations for academic language competence: The effects of storybook reading on Zulu language, literacy and discourse development. Southern African Linguistics and Applied Language Studies, Vol. 23, No. 1, pp. 91-109.*

<http://dx.doi.org/10.2989/16073610509486376>

**Key words:** Family Literacy Project, storybook reading, emergent literacy, language and discourse development, rural poverty and literacy

<b>Participants and Context</b>	6 Grade R learners from a preschool 6 Grade 1 learners from the nearby primary school (baseline) Both preschool and primary school were in a poor rural area in south western rural KwaZulu-Natal
<b>Measures</b>	Pre- and posttest measures (April and November of Grade R) used for the Grade R learners: Story recall Free story telling Book behaviour Language development (Mean length of utterance (morphemes); use of nouns and verbs; use of past and present tense) The same measures were used for Grade 1, but they were only tested once, at the start of the year.

The findings reported in this article come from a small-scale study that formed part of a larger intervention, the Family Literacy Project, that was initiated in 2000 in five communities in a deep rural high poverty area in the Southern Drakensburg region of KwaZulu-Natal. The project combined a formal adult literacy programme with an early child literacy development component.

The article uses data from one of the sites to examine, quantitatively and qualitatively, aspects of the language and discourse development of 12 young learners. In all, 6 of the participants were Grade R learners who had been exposed, during the course of one year, to storybook reading in Zulu during preschool; the other 6 participants were Grade 1 learners who had not been exposed to storybook reading during their preschool years and served as a control group. The authors argue that a precursor of academic language is a more disembedded oral language ability which does not rely strongly on an interactive conversational partner or assume shared knowledge with audience; instead, the locus of meaning resides more strongly in the language itself rather than in the interactional context. The authors were particularly interested to see if the children in the study demonstrated a more context-reduced type of language use associated with exposure to 'book language'. The Grade R children showed improvements on all the language and literacy measures from pre- to post-test. They produced longer recalls, their utterances were on average longer, and their vocabulary (nouns and verbs) was more varied. They also remembered more of the main events of the story read to them. In addition, the posttest protocols suggested that some of the Grade Rs were also showing features of a more context-disembedded style of discourse than their Grade 1 peers by, for example, identifying referents in the story and lexicalising the context. In contrast, even though they were a year older, the Grade 1s had shorter recall protocols, showed less variation in vocabulary use, their language use was embedded in the interactional context, and they had poor book behaviours. The qualitative observations also showed the Grade Rs more familiar with books and literate activities, and more confident in their personal and recall

protocols. The authors argue that activities that require extended discourse such as storybook reading, telling stories, giving descriptions of events develop this kind of language ability. Activities that require short responses to known questions or oral chanting do not develop extended discourse, yet it is often such activities that figure prominently in preschools. The Grade 1s who had not been exposed to opportunities for extended discourse via storybook reading did not produce language with these features.

The study serves as a small case study and, because of the small sample size, no generalisations can be made. However, it is one of the earliest studies that looks at emergent features of more literate oriented language use in the local African context.

Pretorius, E.J. and Machet, MP. 2008. *The impact of storybook reading on emergent literacy: Evidence from poor rural areas in KwaZulu-Natal, South Africa*. *Mousaion*, Vol. 26, No. 2, pp. 206-234.

**Key words:** Family Literacy Project, storybook reading, emergent literacy, rural poverty and literacy

<b>Participants and Context</b>	26 x Grade R Zulu learners from 3 preschools in KZN 18 x Grade 1 Zulu learners from nearby schools (not previously exposed to storybook reading in preschools) Deep rural areas in south western rural KZN
<b>Measures</b>	Emergent literacy (measures to assess knowledge of environmental print, letters of the alphabet, sequencing of story events, oral story recall, free oral story telling, book behaviour, writing, drawing) <i>McCarthy Scales of Children's Abilities</i> . 1975. New York: The Psychological Corporation.

Like the previous article, the small-scale study reported in this article formed part of the larger Family Literacy Project, implemented in 2000 in five communities in a deep rural high poverty area of south western KwaZulu-Natal. The purpose of this article is to examine the effects of storybook reading in Zulu on the emergent literacy of Zulu children in three preschools within the project. The article contextualises the study by giving a brief overview of literacy in South African schools (between 2000 and 2008), followed by a description of the Family Literacy Project. Using a pre- and post-test design, the development of emergent literacy skills of 26 preschool Zulu children were examined over a period of a year to see whether storybook reading had made a difference to the children's literacy behaviour and skills. Their performance was compared to Grade 1 Zulu children who had been in preschools without exposure to storybook reading and who served as a control. Both qualitative descriptions and quantitative descriptive statistics were used by way of evidence. Despite being a year younger, the preschool children outperformed the Grade 1 children on nearly all the measures of emergent literacy. The authors suggest that storybook reading provides a rich linguistic context that can impact positively on the language and literacy development of young children. Pedagogical implications are discussed in light of the South African context of early childhood development, especially in disadvantaged areas.

This is one of the early articles that deals with emergent literacy in an African language. Both this and the previous article were written at a time when attendance at preschool was not compulsory and Grade R had not yet been phased into primary schools in South Africa. The ECD scene has in many respects changed quite considerably since then, even though the development of emergent literacy is still a challenge in SA preschools.

Because this is an area that lacks research into early literacy acquisition in the African languages, some references to studies that focus on emergent literacy skills in English in high poverty contexts in South African preschools are given below for interest:

O'Carroll, S. 2006. Supporting early literacy in a disadvantaged community in South Africa: Focus on developmental change. Unpublished PhD thesis, London University.

O'Carroll, S. 2011. *An exploratory study of early letter-sound knowledge in a low socioeconomic context in South Africa. **Reading & Writing**, Vol. 2, No. 1, pp. 7-26*  
<http://www.rw.org.za/index.php/rw/article/view/10>

Martin, C.D. and Ebrahim, H.B. 2016. *Teachers' discourses of literacy as social practice in advantaged and disadvantaged early childhood contexts. **South African Journal of Childhood Education**, Vol. 6, No. 2, pp. a454.*  
<http://dx.doi.org/10.4102/sajce.v6i2.454>

Olivier, J.M. 2009. Investigating literacy development among learners with a second language as medium of education – the effects of an emergent literacy stimulation program in Grade R. Unpublished doctoral thesis, University of Stellenbosch.

Willenberg, I. 2004. Getting set for reading in the rainbow nation: Emergent literacy skills and literacy environments of children in South Africa. Unpublished PhD thesis, Harvard University.

## PART 2B: FOUNDATION PHASE

The articles reviewed in this section deal specifically with the development of early reading skills (e.g. decoding) in African languages in Grades 1-3. As can be seen, most of the reading research in African languages focuses on the early years of formal literacy instruction. In all, 14 of the 38 entries (37%) deal with aspects of decoding in the African languages during the early Foundation phase grades.

The articles are arranged chronologically.

Veii, K. and Everatt, J. 2005. *Predictors of reading among Herero-English bilingual Namibian school children. **Bilingualism: Language and Cognition**, Vol. 8, No. 3, pp. 239-254.*  
<https://doi.org/10.1017/S1366728905002282>

**Key words:** orthographic depth hypothesis, central cognitive processing hypothesis, word and nonword reading, listening comprehension, phonological awareness, verbal and spatial memory, non-verbal reasoning, semantic fluency, rapid naming, bilingual reading

<b>Participants and Context</b>	116 Grade 2-5 bilingual learners in Herero and English (Grade 2 n=22; Grade 3 n=41; Grade 4 n=44; Grade 5 n=20) 4 state schools in Namibia where Herero is taught as LoLT in Grades 1-4, and English taught as a subject. English becomes LoLT in Grade 4, with Herero as a subject
<b>Measures</b>	Various measures were administered in both Herero and English: phonemic awareness (phoneme identification) word reading (Schonell English word list adapted to Namibian context) pseudo word reading (nonword reading) semantic fluency listening comprehension rapid naming (colour naming and familiar line drawings) non-verbal reasoning verbal and spatial memory

This study tested two hypotheses: the script dependent (or depth of orthography) hypothesis that predicts faster reading development in languages with a more transparent orthography, and the central cognitive processing hypothesis, where common underlying cognitive-linguistic processing skills are held to predict literacy levels across languages. Herero is an agglutinating language belonging to the family of Bantu languages and has a transparent orthography, unlike the opaque orthography of English that served as the learners' second language.

Overall, the findings indicated that first and second language reading skills were best predicted by first language verbal comprehension and second language phonological processing. The findings supported both hypotheses, with the results showing that literacy acquisition was faster in Herero with its transparent orthography than in English with its opaque orthography. Even so, reading development in the Namibian context was slower compared to bilingual Grade 1 readers in the Canadian context; early reading skills were still developing amongst Grade 5 learners in Namibia.

The findings were also consistent with the view of the importance of phonological processing in early literacy development in both languages. Children with strong phonological processing skills in one language also showed similar skills in the other language. Evidence was also found for inter-dependence between languages, with literacy in the first language being partly predicted by second language underlying linguistic/cognitive skills, and L2 reading partly predicted by L1 linguistic skills. The authors suggest that these latter findings are more consistent with the predictions of the central processing hypothesis. However, they conclude that the two hypotheses could be regarded as complementary and can be accommodated within the same theoretical framework.

Lekgoko, O. and Winskel, H. 2008. *Learning to read in Setswana and English: cross-language transference of letter-knowledge, phonological awareness and word reading skills. Perspectives in Education*, Vol. 26, No. 4, pp. 57-73.

**Key words:** Reading, Setswana, bilinguals, letter knowledge, phonemic awareness, word reading, pseudo word reading, cross-language transference

<b>Participants and Context</b>	36 Grade 2 learners, in Setswana and English 2 rural state schools in Botswana
<b>Measures</b>	Four measures were administered in both languages: phonemic awareness (phoneme deletion) letter-sound knowledge word reading pseudo word reading (nonword reading)

This study looks at the role of letter knowledge and phoneme awareness in reading in Grade 2 children who learn to read in Setswana (Grade 1) and then in English (Grade 2). The children were tested on all four measures of reading in both languages, with the tests adapted according to the linguistic and orthographic features of each language. Of the original 50 children included in the sample, 28% (14) were excluded because they did not have letter knowledge and could not read at all.

Of the remaining 36 children, the phoneme deletion task was found to be difficult in both languages, and letter knowledge in Setswana was also low. The reading of words was also easier than the reading of pseudo words. The findings show a complex pattern of cross language transference. Letter knowledge in Setswana did not predict any cross-language reading of words or nonwords, while letter knowledge in English was a good predictor of word and nonword reading in both languages. Phonemic awareness in Setswana predicted reading of words and nonwords in Setswana as well as the reading of English nonwords, while phonemic awareness in English predicted the reading of English nonwords. The high correlation between reading words and nonwords in Setswana but not English suggested a similar strategy in reading these words, which concurs with other findings from languages with more transparent mapping between phonology and orthography. The results of the study confirm other findings that show that children with good phonemic skills learn to read more easily than children with poor phonemic skills.

The article provides a list of the consonants in Setswana with the corresponding IPA phonetic symbols that can be of use to reading or language teachers.



Pretorius, E.J. and Mokhwesana, M.M. 2009. *Putting reading in Northern Sotho on track in the early years: changing resources, expectations and practices in a high poverty school*. *South African Journal of African Languages*, Vol. 29, No. 1, pp. 54-73. <http://www.tandfonline.com/doi/pdf/10.1080/02572117.2009.10587317>

**Key words:** early Northern Sotho literacy development, phonemic awareness, word recognition, vocabulary, story recall, book behaviour

<b>Participants and Context</b>	A small scale longitudinal contextualised study involving 10 x Grade 1 learners Quintile 1 township school with Northern Sotho as LoLT in Foundation Phase
<b>Measures</b>	Letter sound identification Phonological awareness/Phonemic awareness Word recognition Vocabulary (the Renfrew vocabulary test) Story recall Book behaviour Writing (writing a letter)

This is one of the earliest articles to focus on Grade 1 reading skills in Northern Sotho. The article reports on the results of a reading intervention project that was implemented over a four-year period (2005-2008) in a high poverty school. The aim of the project was to build a culture of reading at the school by creating conditions conducive for reading instruction and development. The article examines the development of Grade 1 reading skills in Northern Sotho during this period and to reflect on possible changes that took place in the Grade 1 classrooms as a result of the intervention. A wide battery of tests was used including letter knowledge, phonemic awareness, word recognition, book behaviour, writing, story recall and vocabulary. Although at the start of the project the reading levels at the school were extremely low, there was a steady increase in various aspects of reading competence during the four years. Descriptive pre- and post-test results and correlation statistics are reported in the quantitative component of the article. The authors argue that improvements in reading in the African languages are dependent on changes in classroom practices that involve focussed and explicit reading instruction. Such changes, in turn, will only take place if attention is paid to both resource building and capacity building in formal schooling contexts.

Alcock, K.J., Ngorosho, D., Deus, C. and Jukes, M.C.H. 2010. *We don't have language at our house: Disentangling the relationship between phonological awareness, schooling, and literacy. British Journal of Educational Psychology*, Vol. 80, No. 1, pp. 55-76.  
<http://dx.doi.org/10.1348/000709909X424411>

**Key words:** Phonological awareness, phonemic awareness, syllable awareness, reading, effect of reading instruction/schooling versus no schooling

<b>Participants and Context</b>	108 Kiswahili children, aged 7-10 years, grouped according to whether they had no schooling, 1 year of schooling or 2 years of schooling homogeneous Kiswahili community in coastal Tanzania
<b>Measures</b>	<p><i>Phonological awareness tasks:</i>          'odd one out' at initial phoneme, initial syllable, and final syllable identification of number of words in sentence, syllables in a word, and phonemes in a word          blending and segmenting at word, syllable and phoneme level          repetition of nonsense words</p> <p><i>Reading tasks:</i>          distinguishing letters from non-letters          distinguishing words from non-words</p> <p><i>Cognitive tasks:</i>          Digit span (working memory)          Vocabulary test</p> <p>SES of family home</p>

This study examined directionality in the relationship between phonological awareness (PA) and literacy development in Tanzania amongst preliterate Kiswahili children as well as children who had already attended either one or two years of schooling and had thus been exposed to reading instruction. Because many children start school late in Tanzania, it was possible to compare the PA skills of children of comparable ages who were preliterate with those who had some experience of schooling. Kiswahili is an agglutinating language spoken in East Africa belonging to the family of Eastern Bantu languages, with a transparent orthography.

The study examined which PA skills developed in preliterate children before reading is initiated, how basic reading skills (performance on letter and word recognition) and attendance at school affected PA and whether letter recognition was more important for PA than word reading. It was further hypothesised that these effects would be independent of age, home environment and cognitive skill.

The results indicate that it is possible to analyse the effects of schooling and of literacy skills separately.

Non-readers were significantly poorer at all PA tasks except counting syllables and counting sounds, and nonsense word repetition. In languages with a simple syllabic structure, children are found to have good syllable awareness before learning to read. This was partly confirmed in the study: children who could not read performed above chance levels on some syllable tasks, but not on the initial syllable. Performance on the syllable blending task was poor for children who could read neither letters nor words, and significantly lower than children who could read. The explicit manipulation of phonemes

within words was very hard for all the children in the study. The relationship between PA and reading remained significant after controlling for age and schooling, suggesting that learning to read alters the way children carry out PA tasks.

The authors note that there appeared to be a very close relationship between letter reading and PA, closer than the relationships between age, schooling, or word reading and PA, and independent of any cognitive influences on PA. Their data on family literacy and incidental print exposure suggest that in the Tanzanian context, there is very little environmental print and out of school exposure to print is genuinely low - 72% of families had no books at all in the home, including religious books, while 78% never had newspapers. The findings suggest that there is some development of PA before reading acquisition occurs, but that PA requires literacy development for further establishment. The authors conclude that PA develops prior to the attainment of literacy, but that learning to read improves PA quantitatively and qualitatively.

Wilsenach, C. 2013. *Phonological skills as predictor of reading success: An investigation of emergent bilingual Northern Sotho/English learners*. *Per Linguam*, Vol. 29, No. 2, pp. 17–32.

<http://perlinguam.journals.ac.za/pub/article/view/554/589>

**Key words:** Phonological skills, syllable awareness, non-word repetition, phonological working memory, word and passage reading, Northern Sotho

<b>Participants and Context</b>	50 Grade 3 learners (Group 1 n=25 had Northern Sotho as a LoLT in Foundation Phase; Group 2 n=25 were Northern Sotho speakers but had English as LoLT in Foundation Phase) Quintile 1 and 2 township schools in Gauteng
<b>Measures</b>	Non-word repetition task (NWT) in Northern Sotho Syllable awareness in Northern Sotho (deletion of initial, end and medial syllables) Phonological working memory (digit span, conducted in English) Word reading in Northern Sotho and English Text/passage reading in Northern Sotho and English

Because the role of phonological processing in reading in African languages has not yet been well researched, this study focused on phonological skills and reading in emergent bilingual Northern Sotho/English learners. Fifty Grade 3 learners (all native speakers of Northern Sotho) were tested on non-word repetition skills, syllable awareness, phonological working memory and reading ability. Phonological awareness was only tested at the syllable and not the phoneme level, and only in Northern Sotho, not in English.

The Northern Sotho group read more fluently in their L1 than in English. The English group could hardly read at all in Northern Sotho and not very well in English. The results showed a significant correlation between phonological skills and reading in Northern Sotho. Regression analyses suggested that Northern Sotho phonological awareness was a robust predictor of both Northern Sotho and English word reading, and to a lesser extent, passage reading in Northern Sotho. In this particular study, Northern Sotho PA was not a robust predictor of fluent English passage reading. The raw score on the NWR task also significantly predicted learners' performance in Northern Sotho passage reading.

The author suggests that the results of the study can be interpreted in terms of the Central Processing Hypothesis of Geva and Siegel (2000), where literacy acquisition is seen to depend less on the nature of the language of instruction, and more on the development of common underlying metalinguistic and cognitive processes such as PA, lexical ability, working memory and automaticity. On this view, these (or some of these) processes are not properly developed in children who struggle to read.

Malda, M., Nel, C., and van de Vijver, F.J.R.. 2014. *The road to reading for South African learners: The role of orthographic depth. Learning and Individual Differences*, Vol. 30, pp. 34-45.

<http://www.sciencedirect.com/science/article/pii/S104160801300191X>

**Key words:** Orthographic depth, profiling reading skills, cognitive skills, reading skills

<b>Participants and Context</b>	<p>358 Grade 3 learners from schools in North West Province, in which the following three languages were languages of learning and teaching in the Foundation Phase:</p> <p>122 Afrikaans (transparent) (97% home language Afrikaans learners);          109 Setswana (transparent) ((87% home language Setswana learners)          127 English (opaque) (21% home language English learners)</p> <p>The quintiles of the schools are not stated, but a SES index for the participating learners was compiled.</p>
<b>Measures</b>	<p><b>Cognitive tests</b> (in all three languages)          short-term memory (digit span; verbal short-term memory; spatial short-term memory)          working memory (backward digit span; verbal working memory; spatial working memory)</p> <p><b>Reading tests</b> (in all three languages)          phonological awareness          word fluency          text fluency (ORF)          vocabulary (synonyms, antonyms, word definitions)          reading comprehension (26 multiple choice items; literal, straightforward inferential and interpretive questions)</p>

This study was interested to see how learners' profiles of reading and cognitive skills were affected by the opacity/transparency of the language of literacy in the Foundation Phase. Afrikaans and Setswana served as examples of transparent orthographies and English as the opaque orthography. Multigroup invariance analyses were used to investigate the way in which the link between cognitive skills (short term and working memory) and reading comprehension was mediated by phonological awareness, word recognition, text fluency and vocabulary.

The findings indicated that overall the pathways between cognitive and reading skills were similar across the three orthographies, which suggest that the "main road to reading" is the same for children learning to read in alphabetic languages, irrespective of orthographic depth. However, differential effects were found in terms of the strength of the association between the sets of skills. In line with theories of orthographic depth, phonological awareness played a larger role in the more transparent orthographies of Afrikaans and Setswana, while vocabulary and working memory seemed to play a stronger role in reading in English. The findings point to the need to align early reading instruction with orthography. The authors speculate that the delays observed in the children's reading skills could be due to appropriate phonics approaches not adequately implemented in schools. The authors caution that factors such as quality of education within schools and the amount of reading and cognitive stimulation received in homes may also contribute to comprehension skills.

Diemer, M.N.. 2015. The contributions of phonological awareness and naming speed to the reading fluency, accuracy, comprehension and spelling of Grade 3 isiXhosa readers. Unpublished MA dissertation. Grahamstown: Rhodes University.

**Keywords:** Early reading in Xhosa, phonological awareness, naming speed, reading fluency, comprehension spelling

<b>Participants and Context</b>	52 Grade 3 Xhosa learners in schools where Xhosa is the LoLT in Foundation Phase
<b>Measures</b>	Phonological awareness Naming speed (using an adapted rapid automatized naming task) Oral reading fluency Silent reading Reading comprehension Spelling

This detailed study focuses on the role of phonological awareness and rapid naming in early Xhosa home language reading, amongst Grade 3 Xhosa learners across three township schools in the Eastern Cape.

The study found that phonological awareness was a strong determinant of reading fluency, accuracy, reading comprehension and spelling. The findings confirm the predictions of the Psycholinguistic Grain Size Theory of Ziegler and Goswami (2005). The role of rapid naming was more circumscribed, and contributed to fluency and accuracy only in the group that had poor phonological awareness.

The pedagogical implications drawn from the findings point to the importance of emphasising orthographic-phonological relations, especially at the phonemic level. The author suggests that a phonics approach could fast track the development of automaticity in reading in Xhosa.

Gxowa-Dlayedwa, N.C. 2015. *Ukufundisa izicuku zeziqhakancu emagameni. Per Linguam*, Vol. 31, No. 3, pp. 32-48.  
<http://perlinguam.journals.ac.za/pub/article/view/622>

**Key words:** phonemes, onset, syllable, coda, clicks, bound morphemes, word categories.

This article is published in Xhosa, with an abstract provided in English.

From the abstract, it appears that this article deals with phonemes and syllables in Xhosa. The focus in particular is on clicks and click clusters, which occur in major word categories in Xhosa. The author argues that knowledge of phonemes and syllables is important for learning to read in Xhosa and also for learning Xhosa as an additional language. Data is drawn from a novel by Sidlayi (2009) as well as from the researcher herself.

Piper, B., and Zuilkowski, S.S. 2015. *Assessing reading fluency in Kenya: Oral or silent assessment?* *International Review of Education*, Vol. 61, No. 2, pp. 153-171.  
<https://link.springer.com/content/pdf/10.1007%2Fs11159-015-9470-4.pdf>

**Key words:** Literacy assessments, quality education, oral and silent reading fluency, comprehension, Kiswahili, Kenya

<b>Participants and Context</b>	1,541 Grade 2 bilingual learners in Kiswahili and English Mainly rural schools in Bungoma and Machakos counties in Kenya
<b>Measures</b>	Oral reading fluency (timed 1 minute test) Silent reading fluency (timed 1 minute test) Oral reading comprehension (tasks taken from the Early Grade Reading Assessment -EGRA)

At the time of writing the article, numerous initiatives were underway in Kenya to improve early reading outcomes, as research showed that only 32% of Grade 3 learners could read Grade 2 texts, in either Kiswahili or English. The focus in this study relates to issues of assessment to monitor quality education and the need for reliable instruments to measure literacy development. Data is used from the Primary Maths and Reading Initiative (PRIMR) in Kenya to (i) compare reading rates and reading comprehension in Kiswahili and English when learners are tested orally or silently, (ii) to examine the relationship between oral and silent reading in both languages, and (iii) to determine which of the two assessment methods best predicted comprehension.

The results showed slow reading rates and low comprehension levels in both languages. While reading comprehension levels were low in English L2, they were only marginally better (but not statistically significantly different) in Kiswahili, pointing to reading challenges within the Kenyan education system generally. The Grade 2 learners were averaging 30 words correct per minute (wcpm) in L2 English reading, and 24 wcpm in Kiswahili (since the latter is an agglutinating language with longer word units, the slower reading rate in Kiswahili is not unexpected), indicating very slow reading rates in both languages. There were no statistically significant differences in reading rates and comprehension scores when learners were tested orally or silently, in both languages. Moderate correlations were found between oral and silent reading within and across languages. Children who had decoding difficulties in one language were likely to have decoding difficulties in the other language. In addition, in both languages oral reading rate was a better predictor of comprehension than silent reading, with oral reading rate accounting for more of the variation in comprehension scores. The authors conclude that in Kenya and countries with similar language and learning contexts, where the emphasis has shifted from mere access to education to access to quality education, oral reading fluency is a useful assessment tool for monitoring literacy outcomes. It not only enables the calculation of reading fluency rates but also has the benefit of enabling the analysis of decoding errors with some precision.



Wilsenach, C. 2015. *Receptive vocabulary and early literacy skills in bilingual Northern Sotho-English bilinguals*. *Reading & Writing*, Vol. 6, No. 1, Article 77.  
<http://www.rw.org.za/index.php/rw/article/view/77>

**Key words:** Vocabulary development, early literacy skills, mother-tongue education, socioeconomic factors

<b>Participants and Context</b>	99 Grade 1 learners Quintile 1 and 2 township schools Northern Sotho and English
<b>Measures</b>	Peabody Picture Vocabulary Test (PPVT) (a receptive vocabulary test) Letter knowledge Phoneme-grapheme correspondences Early writing (name and surname)

In this study a receptive vocabulary test, the Peabody Picture Vocabulary Test, was used with two groups of Grade 1 learners (assessed in the third term of Grade 1) to examine the relationship between receptive vocabulary knowledge and early literacy development. Group 1 was at a school that went straight for English in Foundation Phase, while Group 2 had N Sotho as LoLT in Foundation Phase, with English as FAL. Both groups were given the PPVT in English (Form B of the PPVT) and N Sotho (Form A of the PPVT).

The findings showed that although receptive vocabulary knowledge was low in both languages, it had a significant effect on early literacy skills in both N Sotho and English. English receptive vocabulary significantly predicted the outcome of all the early literacy skills, while N Sotho receptive vocabulary predicted the outcome of phoneme-grapheme correspondences and early writing. The results suggest that mother-tongue education in itself does not guarantee successful literacy development. The study emphasises the importance of developing both L1 and L2 vocabulary knowledge of bilingual learners. Measuring receptive vocabulary not only predicts early literacy skills but can also identify children at risk of not acquiring basic literacy skills such as phoneme-grapheme correspondences.

Mohohlwane, N.L. 2016. **The contribution of randomised control trials (RCTs) to improving education evaluations for policy:** evidence from developing countries and South African case studies. Unpublished MA dissertation. Johannesburg, University of the Witwatersrand.

**Key words:** language, reading, education, learner performance, education policy, school interventions, evaluation methods, randomised control trials

<b>Participants and Context</b>	4 539 Grade 1 Tswana learners (Feb baseline tests) Quintile 1-3 schools in two districts in North West Province (48% of the learners tested were from Quintile 1 schools)
<b>Measures</b>	phonemic awareness letter-sound knowledge single word reading sentence reading (oral reading fluency) picture comprehension test digit span test (working memory)

The main focus of this study relates to quality of schooling in education systems and ways to evaluate interventions in a rigorous manner that will produce evidence of school and classroom based practices

and resources that have a measurable effect on learner performance. In the dissertation, the use of randomised control trials (RCTs) that relies on a counterfactual is examined as a method for rigorously evaluating interventions in education. A systematic review of the use of RTIs in international and local literature is provided, the limitations of the method are identified and discussed, and arguments in favour of why RCTs should be part of methodological options in education research in developing countries are put forward. Although the study does not focus on reading in African languages per se but rather on the importance of RTIs as a methodological option in literacy research, the study has been included in this annotated bibliography because Chapter 5 contains a case study of the Early Grade Reading Study (EGRS) that was conducted in 230 primary schools North West Province over a two-year period, providing baseline data on Tswana literacy at the start of Grade 1. The EGRS study was conducted by the Department of Basic Education in 2015-2016, to examine the effects of three different literacy interventions (50 schools in each intervention, and 80 control schools serving as counterfactuals) on early literacy in Tswana in Grades 1 and 2. Descriptive statistics are provided in Table 13 of Grade 1 literacy results at the start of the year, and Table 14 provides descriptive statistics of letter-sound knowledge and digit span memory at the different percentiles. Although only the baseline results are presented in the dissertation, they clearly show the emergence of different literacy trajectories from the start of Grade 1, pointing to the need for early remedial action even in the first year of schooling, in order to reduce inequalities in learner literacy performance.

Reports and articles on the outcomes of EGRS study will be forthcoming in the near future.

Probert, T. 2016. A comparative study of syllables and morphemes as literacy processing units in word recognition: IsiXhosa and Setswana. Unpublished MA dissertation. Grahamstown: Rhodes University.

**Key words:** Word recognition, phonological awareness, morphological awareness, conjunctive vs disjunctive orthography, grain size in word recognition

<b>Participants and Context</b>	74 Grade 3 and 4 Tswana and Xhosa readers The learners (all L1 speakers of Tswana and Xhosa) attended schools where (a) the learners had received early schooling in the African languages during the Foundation Phase or (b) where the learners had received early schooling in English during the Foundation Phase. The school quintiles are not stated.
<b>Measures</b>	Open-ended decomposition task Phonological awareness task Morphological awareness task ('Wug' equivalent task; word/sentence building; morpheme identification; morphological analogy) Oral reading fluency (ORF) and silent reading fluency (SRF)

Word recognition and the factors that impact on it when reading in Southern-Bantu African languages are a relatively unexplored domain in reading research. This study examines three sets of factors that impact on reading in African languages: language skills (the effect of Language and Teaching (LoLT)), metalinguistic awareness (as measured by phonological and morphological awareness) and orthography (reading in a disjunctive orthography (Tswana) and a conjunctive orthography (Xhosa)).

In the study, innovative reading measures were developed in Xhosa and Tswana, informed by linguistic principles.

- In the open-ended decomposition task, learners break sentences and words into smaller components to determine whether syllabic or morphemic units are dominant in word identification.
- The phonological awareness measures included identification, segmentation and blending of phonemes and syllables in words and nonwords, in accordance with Tswana and Xhosa phonological and orthographical structures.
- The morphological awareness measures included African language equivalents of the 'Wug' test (which uses nonsense words to gauge children's acquisition of morphological rules), a word/sentence building task, a morpheme identification task and a written morphological analogy and production task.
- The independent reading measure included timed oral reading fluency (ORF) and silent reading fluency (SRF) tasks, followed by comprehension questions based on how far the learners had read in the selected narrative passages.

Although the reading levels on the whole were low, the results showed that syllables rather than morphemes were the dominant units in word recognition in both languages, although Xhosa readers showed greater sensitivity to morphemes than Tswana readers, due to the conjunctive nature of Xhosa orthography. Psycholinguistic Grain Size theory (Ziegler and Goswami, 2005) was found to provide the best account of the results. The results also suggested that LoLT did not impact significantly on word recognition in first-language reading. In general, the findings indicate that readers' word recognition skills are influenced by the orthographic and linguistic features of the languages in which reading occurs.

Rees, S.A. 2016. Morphological awareness in readers of isiXhosa. Unpublished MA dissertation, Rhodes, University, Grahamstown.

**Key words:** transparent orthographies, agglutinating languages, morphological awareness, inflectional morphology, derivational morphology, decoding, oral reading fluency, oral reading comprehension

<b>Participants and Context</b>	74 Grade 3 Xhosa learners Peri-urban schools in the Eastern Province
<b>Measures</b>	Oral reading fluency in Xhosa; Oral reading comprehension. Morphological awareness comprising four subtests: <ul style="list-style-type: none"> <li>• Imbabule (wug) test for inflectional morphology</li> <li>• Sentence analogy</li> <li>• Word building</li> <li>• Revised morphology identification task</li> </ul>

This study focuses on the role that morphological awareness plays in reading in Xhosa. Four morphological tests commonly used in research to assess inflectional and derivational morphological knowledge were revised and adapted to suit the agglutinating structure of Xhosa word formation. The tests were administered to 74 Grade 3 learners in their third term of Grade 3, together with a reading fluency and oral reading comprehension test. The results showed a significant correlation between morphological awareness and decoding, but not between morphological awareness and reading comprehension. The author suggests that morphological knowledge could be important for processing the agglutinating structure of words in a transparent, conjunctive orthography such as Xhosa.

The findings suggest that it is general awareness of word structure, especially awareness of prefixes and suffixes, that is important in reading in an agglutinating language such as Xhosa, rather than derivational versus inflectional knowledge. In terms of pedagogical implications, the author recommends that different kinds of morphological activities (as evinced in the morphological tests) could be used in Foundation Phase classrooms to heighten children's awareness of word structure, especially when approaching morphologically complex words in texts.

Makaure, Z.P. 2017. Phonological processing and reading development in Northern-Sotho – English bilinguals. Unpublished MA dissertation. University of South Africa, Pretoria.

**Key words:** phonological processing, reading development, bilingualism, Northern Sotho, English, L1 and L2 reading, cognitive-linguistic skills, linguistic transfer

<b>Participants and Context</b>	98 Grade 3 Northern Sotho-English bilingual learners (48 had NS as LoLT; 50 had English First Additional Language as LoLT in Foundation Phase) Quintile 1 and 3 township schools in Gauteng
<b>Measures</b>	Standardised Comprehensive Test of Phonological Processing (CTOPP) in English, and designed and adapted for Northern Sotho. Subcomponents in each language included: phonological awareness, digit span task, non-word repetition, rapid digit naming, rapid letter naming, rapid colour naming, rapid object naming  Reading ability in both languages was assessed by means of timed tasks of word reading and passage reading fluency (oral reading fluency)

This dissertation looks in some detail at a broad range of phonological processing skills and reading development in two different groups of Northern Sotho–English Grade 3 bilingual learners in township schools in Gauteng. One group of learners (n=48) had Northern Sotho as their LoLT during the Foundation Phase, with English as their L2, while the other group had English as their LoLT, with Northern Sotho as their L2. A battery of tests was used that taps into different aspects of phonological processing and reading ability in both languages. The relationships between phonological processing skills and reading ability are examined in both languages, as are the transfer of linguistic skills from one language to another. Gender differences in these skill areas are also examined.

The study provides a wealth of detail, but the main findings showed that phonological processing (in particular phonological awareness and rapid automatized naming) predicted reading outcomes in both Northern Sotho and English groups, with slightly different relational patterns in phonological awareness and reading ability in the two groups. While the English group performed slightly better than the Northern Sotho group, both groups read slowly and showed below average reading levels. The study also found clear gender differences, with girls outperforming boys in phonological processing tasks and reading ability. Not surprisingly, the findings show that bilingual children develop phonological processing and reading skills in the language in which they receive their literacy instruction. The study did not find clear advantages in mother-tongue instruction, since the Northern Sotho group did not develop strong cognitive-linguistic skills essential for reading. The author suggests that mother-tongue education needs to focus on developing strong literacy skills in learners.

Department of Basic Education, August 2017. The Early Grade Reading Study (EGRS).  
Summary report: Results of Year 2 Impact evaluation. Pretoria: Department of Basic Education.

**Key words:** randomised control trials, reading, education, learner performance, education policy, literacy interventions

<b>Participants and Context</b>	<p>Over 4,000 Grade 1 and 2 Tswana learners respectively (Grade 1 baseline and midline tests, Grade 2 endline tests) 230 Quintile 1-3 schools in two districts in North West Province (48% of the learners were from Quintile 1 schools)</p> <p>Three intervention models were assessed, with 50 schools randomly assigned to each intervention, and 80 control schools.</p> <p>Intervention 1: CAPS aligned lesson plans, reading resources and teacher training at centralised workshops Intervention 2: CAPS aligned lesson plans, reading resources and specialist on-site coaching Intervention 3: Parental intervention</p>
<b>Measures</b>	<p>phonological awareness letter-sound knowledge single word recognition non-word recognition sentence reading (oral reading fluency) comprehension writing Mathematics English</p>

This is a significant study as it is the first systematic large-scale Randomised Control Trial (RCT) study undertaken in South Africa, to compare the cost-effectiveness of three different intervention models on early literacy performance in an African Home Language (HL), Tswana. The lead researchers in the study were Stephen Taylor (DBE), Brahm Fleisch (Wits) and Mpumi Mohohlwane (DBE). The study started in 2015 and involved 4,539 Grade 1 Tswana learners. The cohort was then followed into Grade 2 in 2016, with the Grade 3 cohort assessed towards the end of 2017.

The Summary Report reports on the study till the end of 2016. Intervention 1, the training intervention, showed some moderate effects on some of the subtests, but Intervention 2, the coaching model, showed statistically significant effects on all HL Tswana literacy measures. Learners who were in this intervention for a period of two years gained 40% of a year of schooling over the learners in the control schools. An interesting positive on English was also found in Intervention 2, but not on Maths. Intervention 3, the parent intervention, was discontinued as it showed no positive effect on literacy except on phonological awareness. The discontinuation was due mainly to challenges around parental attendance at the workshops.

Although gender differences were clear, with girls outperforming boys, the boys were found to benefit more than girls from the coaching intervention. Urban schools also showed

larger effects than rural schools, and teachers with relatively larger classes (38-45 learners) seemed to benefit most from the training and coaching interventions. Matthew effects were also found, with middle-to-top performing learners seeming to benefit more from the coaching intervention. The teaching and coaching interventions seemed to have negligible effects on the weaker learners. Further details of learner performance on the various literacy measures according to intervention can be found in the Summary Report.

A deeper analysis of classroom change was also undertaken from 60-school lesson observations, and two sets of more detailed case studies were also taken by Dr Cheryl Reeves (in four schools) and by Prof. Kerry Dixon and Prof. Brahm Fleisch (in four schools). Besides the summary report, there are also three additional Early Grade Reading Study (EGRS) reports that can be downloaded from the Department of Basic Education website:

- EGRS Family influences on early grade reading  
(<https://www.education.gov.za/Portals/0/Documents/Reports/EGRS%20Family%20influences.pdf?ver=2017-08-17-090121-833>)
- EGRS Classroom observation study  
(<https://www.education.gov.za/Portals/0/Documents/Reports/EGRS%20Classroom%20Observation.pdf?ver=2017-08-17-090043-597>)
- EGRS In-depth case studies of home language literacy practices in four Grade 2 classrooms in Treatment 1 and 2 schools  
(<https://www.education.gov.za/Portals/0/Documents/Reports/EGRS%20Case%20Study%20Reduced2.pdf?ver=2017-08-17-085933-517> )



## PART 2C: INTERMEDIATE PHASE

Although most of the research on decoding skills in African languages focuses on the early grades, several studies have examined these skills in slightly older children, in the Intermediate Phase.

Veii, K. and Everatt, J. 2005. *Predictors of reading among Herero–English bilingual Namibian school children. **Bilingualism: Language and Cognition**, Vol. 8, No. 3, pp. 239-254.*  
<https://doi.org/10.1017/S1366728905002282>

Key words: orthographic depth hypothesis, central cognitive processing hypothesis, word and nonword reading, listening comprehension, phonological awareness, verbal and spatial memory, non-verbal reasoning, semantic fluency, rapid naming, bilingual reading

<b>Participants and Context</b>	116 Grade 2-5 bilingual learners in Herero and English (Grade 2 n=22; Grade 3 n=41; Grade 4 n=44; Grade 5 n=20) 4 state schools in Namibia where Herero is taught as LoLT in Grades 1-4, and English taught as a subject. English becomes LoLT in Grade 4, with Herero as a subject
<b>Measures</b>	Various measures were administered in both Herero and English: phonemic awareness (phoneme identification) word reading (Schonell English word list adapted to Namibian context) pseudo word reading (nonword reading) semantic fluency listening comprehension rapid naming (colour naming and familiar line drawings) non-verbal reasoning verbal and spatial memory

This study tested two hypotheses: the script dependent (or depth of orthography) hypothesis that predicts faster reading development in languages with a more transparent orthography, and the central cognitive processing hypothesis, where common underlying cognitive-linguistic processing skills are held to predict literacy levels across languages. Herero is an agglutinating language belonging to the family of Bantu languages and has a transparent orthography, unlike the opaque orthography of English that served as the learners' second language.

Overall, the findings indicated that first and second language reading skills were best predicted by first language verbal comprehension and second language phonological processing. The findings supported both hypotheses, with the results showing that literacy acquisition was faster in Herero with its transparent orthography than in English with its opaque orthography. Even so, reading development in the Namibian context was slower compared to bilingual Grade 1 readers in the Canadian context; early reading skills were still developing amongst Grade 5 learners in Namibia.

The findings were also consistent with the view of the importance of phonological processing in early literacy development in both languages. Children with strong

phonological processing skills in one language also showed similar skills in the other language. Evidence was also found for inter-dependence between languages, with literacy in the first language being partly predicted by second language underlying linguistic/cognitive skills, and L2 reading partly predicted by L1 linguistic skills. The authors suggest that these latter findings are more consistent with the predictions of the central processing hypothesis. However, they conclude that the two hypotheses could be regarded as complementary and can be accommodated within the same theoretical framework.

Makalela, L. and Fakude, P.F.. 2014. *'Barking' at texts in Sepedi oral reading fluency: Implications for edumetric interventions in African languages. South African Journal of African Languages*, Vol. 34, Supplement 1, pp. 71-78.

<http://www.tandfonline.com/doi/pdf/10.1080/02572117.2014.896538>

**Key words:** Reading in Sepedi, oral reading fluency

<b>Participants and Context</b>	57 Grade 4-7 readers in Sepedi (27 Grade 7 readers; 10 readers each from Grades 4-6 respectively) Four rural schools in Limpopo Province Schools where the Khelobedu and seMmamabolo dialects are spoken
<b>Measures</b>	Timed oral reading fluency in Sepedi (accuracy and speed)

The authors acknowledge the paucity of research on oral reading fluency (ORF) in the African languages and seek to redress this by looking at ORF performance in Northern Sotho amongst Grade 4-7 readers across four rural schools in Limpopo Province. ORF is typically measured in terms of speed and accuracy (how many words are read correctly within a minute (wcpm)). Using English norms as an initial yardstick, the authors set out to examine whether Grade 7 Northern Sotho readers read faster than 100 wcpm, the effect that different schools and Northern Sotho dialects may have on ORF, and the different wcpm scores that obtain across the grades. In two of the rural schools the Khelobedu dialect was spoken while in the other two schools the seMmamabolo dialect was prominent. The former is more distant from standard Northern Sotho while the latter is more congruent with the standard.

On the whole, the findings revealed what appear to be quite slow reading rates in Northern Sotho amongst Grade 7 readers (an average of 65, 56 and 66wcpm at the three schools respectively), and no school or dialect effects were found. Similarly, no statistically significant differences were found between the 30 Grade 4-6 readers (10 from each grade). There were also no obvious developmental trends in oral reading fluency between these grades, with means of 54, 49 and 56wcpm in Grade 4, 5 and 6 respectively.

Although the sample sizes are small, this is one of the early studies on ORF in an African language with a disjunctive orthography. The disjunctive nature of Sepedi orthography and its comparability to L1 English reading norms are not discussed.

Van Rooy, B. and Pretorius, E.J. 2014. *Is reading in an agglutinating language different from an analytic language? An analysis of Zulu and English reading based on eye movements.* ***Southern African Linguistics and Applied Language Studies***, Vol. 31, No. 3, pp. 281-387.

<http://dx.doi.org/10.2989/16073614.2013.837603>

**Key words:** Grade 4 reading, reading in agglutinating/analytic languages, eye-tracking, reading rate, fixations, refixations, comprehension levels

<b>Participants and Context</b>	22 x Grade 4 Zulu learners (grouped into three levels of comprehension: weak comprehenders, borderline comprehenders and comprehenders)
	Quintile 3 township school with Zulu as LoLT in Foundation Phase
<b>Measures</b>	Reading comprehension Eye-tracking data (words and characters read per minute, fixations, refixations, regressive fixations)

This article examines the reading ability of 22 Grade 4 learners in their home language, Zulu, and in their second language, English, using both eye-tracking data and traditional pen-and-paper reading comprehension assessment. Two aims underpinned the study: firstly, to compare bilingual reading performance in an agglutinating language (Zulu) and an analytic language (English). The learners' eye-tracking profiles were obtained in both languages to see how they differed across the two languages and their eye-tracking profiles were also analysed according to their comprehension performance in both languages. Secondly, the eye-tracking profiles in both languages were also analysed in terms of reading ability, to determine how eye-tracking profiles differed among strong, average and weak readers in the two languages. In general, pen and paper tests show that the entire group performed poorly on comprehension. The main findings from the eye-tracking analysis showed significant differences when the learners read in the two languages, on nearly all the selected eye-tracking variables. The eye movements in Zulu may be attributable to the longer word units in the conjunctive orthography of Zulu. Although there were several significant differences in eye movements between the reading ability groups in English, differences in eye movements due to differential reading skills did not emerge strongly in Zulu. The reasons for this were unclear; the authors suggest it may have been due to floor effects in novice Zulu readers or to a longer developmental trajectory in the early stages of reading in Zulu. Further research is called for. The results point to the need to expose children to extended Zulu texts and to provide opportunities for shared and individual reading in Zulu on a regular basis so that decoding becomes more automatic with practice.

Diemer, M, Van der Merwe K. and de Vos M. 2015. *The development of phonological awareness literacy measures for isiXhosa*. ***Southern African Linguistics and Applied Language Studies***, Vol. 33, No. 3, pp. 325-341.

<http://dx.doi.org/10.2989/16073614.2015.1108769>

**Key words:** phonological awareness, syllable awareness, test construction

<b>Participants and Context</b>	31 Xhosa Grade 4 learners a school in the Eastern Cape where Xhosa was the LoLT in Foundation Phase
<b>Measures</b>	Phonological awareness measures adapted according to Xhosa phonology: Blending, segmenting and substitution at the syllable and phoneme level, using syllable verbs and 3-syllable nouns

Although phonological awareness and its role in early reading development has been studied fairly extensively in English and other European languages, it is not well researched in the local context, and no standardised phonological tests exist in the Bantu languages of South Africa. This study draws attention to the need for further research into the role of phonological awareness in early reading development in agglutinating Bantu languages that have a pervasive syllabic structure. The authors outline the development in Xhosa of linguistically based, language specific tests of phonological awareness that were designed according to Xhosa phonotactics. These comprehensive measures included tasks of increasing complexity such as blending, segmentation and substitution at the syllable and phoneme levels, using 3-syllable nouns and 2-syllable verbs as test items. The rationale for each component of the test is explicitly explained. Descriptive statistics are provided of the results, which clearly show that the learners performed better at syllable rather than phoneme awareness tasks. Because the learners achieved near ceiling effects in syllable blending and segmentation, caution must be exercised in inferring their role in reading development. The authors call for more research to be done on phonological awareness in African languages, with appropriate measures that take cognisance of the language-specific structures of the languages in question.

Pretorius, E.J. 2015. *Failure to launch: Matching language policy with literacy accomplishment in South African schools*. *International Journal for the Sociology of Language*, Vol. 2015, No. 234, pp 47-76  
<https://doi.org/10.1515/ijsl-2015-0004>

**Key words:** Grade 4 literacy; primary language in education; decoding; syllable identification, phonemic awareness, word recognition, oral reading fluency, Zulu reading

<b>Participants and Context</b>	44 Grade 4 learners Quintile 3 township school
<b>Measures</b>	Decoding subskills in Zulu and English: Syllable identification Phonemic awareness Word recognition Oral reading fluency Reading and academic performance

In this article it is argued that the education crisis in South Africa stems largely from a literacy problem. Understanding the reasons why use of the primary language in formal schooling does not unambiguously yield beneficial outcomes in the South African context is critical for improving the use of African languages in early schooling. By assessing early reading skills such as syllable identification, phonemic awareness, word recognition and oral reading fluency in Zulu and English, this article examines the Zulu and English reading literacy skills of a Grade 4 cohort of learners after three years of schooling in their home language. Descriptive and correlational statistics are provided. The research reveals low reading levels in both languages, suggesting a mismatch between language policy and literacy accomplishment. Syllable identification in both Zulu and English did not correlate with any subskills, while phonemic awareness showed strong and significant correlations with both word reading and oral reading fluency in both languages, but especially in Zulu. It is suggested that one of the primary reasons for the poor results in schools that have African languages as initial LoLT lies in the oral orientation to classroom practices in these schools and the lack of opportunities for exposure to reading in African languages. The author argues that a more fully specified language in education model that emphasises *literacy* in the primary language may help to shift the instructional focus where it belongs.

Probert, T. and de Vos, M. 2016. *Word recognition strategies amongst isiXhosa/English bilingual learners: the interaction between orthography and language of learning and teaching. Reading & Writing*, Vol. 7, No. 1, Article 84.  
<http://www.rw.org.za/index.php/rw/article/view/84>

**Key words:** Word recognition, non-word recognition, transparent and deep orthographies, reading strategies, language of teaching and learning (LoLT)

<b>Participants and Context</b>	47 Grade 4 learners Xhosa and English 1 township school with Xhosa as LoLT in Foundation Phase; 1 ex Model C school with English as LoLT in Foundation Phase for Xhosa L1 learners
<b>Measures</b>	word recognition test in Xhosa and English pseudo-word recognition test (nonword recognition) in Xhosa and English

The aim of this study was to examine the reading strategies (lexical and sublexical) used by learners in Xhosa, with its agglutinating linguistic structure and conjunctive orthography, and the transfer of such strategies when reading in an additional language, English. Sublexical strategies involve using phonological decoding skills to decipher words, while lexical strategies involve whole word recognition or transfer. The ways in which reading was taught in the two schooling contexts is not discussed.

The findings indicated that Xhosa LoLT learners (i.e. those with Xhosa as LoLT in the Foundation Phase), familiar with a transparent orthography, showed transfer of skills at the sublexical level (i.e. phonological decoding skills) when reading words in a novel context in both Xhosa and English. There was less felicitous transfer of lexical strategies when encountering unfamiliar words in English with its opaque orthography. The English LoLT learners (i.e. Xhosa learners who had had English as a LoLT in the Foundation Phase) seemed to acquire a combination of lexical and sublexical strategies for reading unfamiliar words in English. Although they were able to transfer decoding strategies to reading words in novel contexts in both languages, they did not always readily do so.

The authors conclude that the results support the premise that reading strategies and cognitive skills are fine-tuned to specific language structures. Readers seem to develop “suites of cognitive skills” depending on the particular linguistic typologies and orthographies to which they are exposed and in which they become literate.

The authors note four pedagogic implications that arise from the findings:

- language-specific reading instructions are needed for early literacy development in different languages
- teachers should help to reduce learner confusion between different orthographies
- teachers should be sensitive to infelicitous transfers that learners can make when reading in different languages
- adequate practice opportunities should be provided in all the languages in which reading occurs.



## **PART 2D: HIGH SCHOOL**

Perhaps not surprisingly, no research could be found that examines decoding skills in African languages amongst teenage/high school learners. Perhaps the assumption is (mistakenly) made that by now foundational reading skills are already in place.

## **PART 2E: ADULT READERS**

Very little research has been done on adult reading in the African languages. All the research to date seems to have been undertaken by Sandra Land.

Land, S. 2015. Reading isiZulu: reading processes in an agglutinative language with a transparent orthography. Unpublished doctoral thesis, University of KwaZulu-Natal.

This thesis examines various aspects of skilled silent reading in isiZulu by adult isiZulu readers, using eye-tracking data recorded from a Visagraph recording equipment. In the thesis the context of the development of reading skills in KZN is sketched, the pitfalls of comparative reading research in different languages and the notion of grain size are discussed, a profile of competent isiZulu readers is presented, automaticity in Zulu reading is examined, and finally the conscious strategies used by competent Zulu readers are explored. This pioneering thesis provides a wealth of detail on the nature of agglutinating languages, the orthographic nature of Zulu texts, and the ways in which Zulu reading is different from reading in a language such as English. Articles that derive from the thesis have been published, as indicated below.

Land, S. 2015. *Zulu orthography and reading*. *South African Journal of African Languages*, Vol. 35, No. 2, pp. 163-175  
<http://dx.doi.org/10.1080/02572117.2015.1113000>

**Key words:** Reading in Zulu, competent adult readers, Zulu orthography, eye movement patterns, saccades, fixations and regressions

<b>Participants and Context</b>	33 proficient adult home language readers of Zulu ranging from 16-61 years of age.
<b>Measures</b>	Visigraph eye tracking recording system, with a focus on fixations, regressions, and reading rate. 2 easy and 2 difficult Zulu texts read

This pioneering study is the first of its kind to look at what eye tracking movements reveal about reading in an agglutinating language such as Zulu, with its conjunctive orthography. The particular demands of Zulu orthography are explained in relation to the profile of competent adult readers as revealed by the eye tracking movements. The study shows that with its longer and morphologically dense word units, Zulu texts take longer to read (on average text is read at 815 letters per minute (note that the abstract incorrectly states that the average reading speed is 815 lines per second, this should read as 815 letters per minute)). than text in other alphabetic languages for which eye tracking data is available. Compared to other languages such as English, Zulu readers showed shorter saccades, longer durations of fixation and more frequent regressive eye movements. Reader, contextual and textual variables are put forward as possible factors that may account for the observed patterns, including small grain size in decoding, agglutination and the conjunctive orthography, and homogeneity in visual textual patterns. The author calls for more research to clarify the implications of these findings for the teaching of reading in African languages.

Another article published by Land in 2015 is:

Land, S. 2015. *Skilled reading in isiZulu: what can we learn from it?* *Journal of Education*, No. 63, pp. 57-87.  
[http://joe.ukzn.ac.za/Libraries/No\\_63\\_2015/Skilled\\_reading\\_in\\_isiZulu\\_What\\_can\\_we\\_learn\\_from\\_it.sflb.ashx?download=true](http://joe.ukzn.ac.za/Libraries/No_63_2015/Skilled_reading_in_isiZulu_What_can_we_learn_from_it.sflb.ashx?download=true)

Land, S. 2016. *Automaticity in reading in isiZulu*. *Reading & Writing*, Vol 7, No. 1, Article 90. <http://www.rw.org.za/index.php/rw/article/view/90>

**Key words:** automaticity, agglutinating languages, conjunctive orthography, long words, recurrent orthographic units

<b>Participants and Context</b>	33 proficient adult home language readers of Zulu ranging from 16 to 61 years of age.
<b>Measures</b>	Visigraph eye tracking recording system, with a focus on fixations, regressions, and reading rate. 2 easy and 2 difficult Zulu texts read

Although reading rate and automaticity have been well researched in English, this area is not well researched in agglutinating African languages such as Zulu, with a conjunctive orthography that results in long word units in written language. Although Zulu has a transparent orthography, long words and complex allomorphy affect reading patterns differently. The three research questions in this article focus on the identification of words that are instantly recognised in Zulu text, the active decoding of words by competent Zulu readers, and the strategies that competent adult readers employ to decode long word units in text. Predictably, the easier texts were read more quickly than the more complex ones. There was an inverse relation between reading rate and sentence length, with reading slowing down with longer sentences, and more fixations and regressions occurring. The high recurrence of similar letter strings also slowed down reading rate. The longer words of Zulu and the complex morphology revealed different eye movements from those found in languages such as English. Unlike English, less than 1% of words were skipped in the Zulu texts, only 24% of words were instantly recognised, and 23% were read with two or more fixations and/or a regression. The author suggests that attention should be given to small grain size processing in early Zulu reading instruction.

## PART 3: COMPREHENSION IN AFRICAN LANGUAGES

The articles in this section contain information and empirical evidence relating specifically to *reading comprehension* in an African language at various levels of formal schooling. The focus is primarily on various aspects of comprehension, without explicit attention given to decoding skills.

### PART 3A: FOUNDATION PHASE

Cekiso, M. 2014. *Home language versus first additional language instruction: A comparison of Grade 3 rural learners' reading comprehension in South Africa*. *International Journal of Educational Sciences*, Vol. 7, No. 3, pp. 647-652.

**Key words:** Reading comprehension, medium of instruction, home language, first additional language

<b>Participants and Context</b>	95 Grade 3 Xhosa learners (42 in Xhosa medium school; 53 in English medium school) Rural schools in the Eastern Cape (school quintiles not stated)
<b>Measures</b>	Comprehension test in Xhosa and English (multiple choice questions and fill-in questions) (The Grade 3 Systemic Evaluation Grade 3 test of 2004 designed by the DoE)

The purpose of this study was to compare the reading comprehension performance of two groups of Grade 3 rural Xhosa children: those who had received instruction in Xhosa during the Foundation Phase (with English as a first additional language) and those who had received instruction in English during the Foundation Phase (with Xhosa as home language). The same comprehension test was administered to all learners: first the English comprehension test and then three months later the Xhosa comprehension test. The results overall showed low reading comprehension levels in both groups and in both languages. (It is presumed that the figures in the tables refer to percentages and not raw scores.) In general, the groups seemed to perform better in the language in which they received their instruction. Although the average Xhosa comprehension levels were slightly higher in the Xhosa LoLT group than the English comprehension levels in the English LoLT group, the figures in the tables indicate that these differences were not statistically significant.

Spaull, N. 2016. *Disentangling the language effect in South African schools: Measuring the impact of language of assessment in grade 3 literacy and numeracy*. **South African Journal of Childhood Education**, Vol. 6, No. 1, Article 475.

<http://dx.doi.org/10.4102/sajce.v6i1.475>

**Key words:** School achievement, literacy (and numeracy) accomplishment, language factors, quality education, Grade 3 literacy

<b>Participants and Context</b>	3,402 Grade 3 learners Primary schools across South Africa
<b>Measures</b>	Five different literacy processes involving (1) cloze items and items requiring students to match words to pictures, (2) items involving the retrieval of explicitly stated information, (3) items involving straightforward inferences, (4) items requiring students to interpret and integrate ideas and information and (5) items involving writing sentences.

The aim of this study is to contribute empirical evidence to the debate regarding how much language (as opposed to other factors) affects school achievement, as reflected in formal literacy and numeracy assessments. In South Africa disadvantages in education are strongly correlated not only with language but also with other confounding factors such as historical disadvantage, socio-economic status, geography, the quality of school management and the quality of teachers (Although the study includes both literacy and numeracy assessments, the focus in this annotation is on literacy.)

The study exploited a unique situation in South Africa where a group of learners happened to be sampled twice, for two different surveys, with tests written 1 month apart. The Systemic Evaluation tested a nationally representative sample of 54 298 Grade 3 students in September 2007, to measure achievement in literacy and numeracy. One month later, the NSES tested a sub-sample of 16 000 Grade 3 learners from the Systemic Evaluation sample, using the same instrument except for the language of the test: the Systemic Evaluation tests (Test 1) were written in the LoLT of the Grad 3 learners while the NSES tests (Test 2) were written in English. Using a stringent matching technique, the author identified 3,402 learners who had written both tests, one month apart, first in their home language and then in English.

The average score for the test when written in the LoLT of the school was 33%, and 22% when taken in English. Despite learning in their home language for 3 years and before any switch to English in Grade 4, the literacy levels in the LoLT were low. The results also showed that performance on the more challenging 'infer and interpret' items in Test 1 (written in the LoLT of the school) was so low to begin with that hardly any differences in performance occurred when the test was written in English.

An important finding to emerge from the analysis was that the size of the composite effect of home background and school quality was 1.6–3.9 times larger than the impact of language (and at least 3.8 times larger for numeracy). Translated into 'years' worth of learning', the author posits that the 'language effect' is approximately 1 to 2 years' worth of learning for literacy and a maximum of 1 year for numeracy. By contrast, the composite effect of home background and school quality is roughly equivalent to 4 years' worth of learning for both numeracy (1.2 standard deviations) and literacy (1.15 standard deviations). The author argues that the 'language effect' should be seen within the broader

context of a generally dysfunctional schooling system. The author concludes that the low literacy and numeracy achievement of learners in Grade 3, even before the language switch to English in Grade 4, should give pause to those who argue that language is the most important factor in determining achievement, or lack thereof, in South Africa.

## PART 3B: INTERMEDIATE PHASE

While some researchers have, individually, looked at comprehension issues in African languages amongst Intermediate Phase learners on a small scale, most of the research in this strand comes from the large scale studies of reading literacy comprehension in all 11 official languages amongst Grade 4 and 5 South African readers, conducted under the auspices of the Progress in International Reading Literacy Study (PIRLS). Much of our understanding of reading accomplishment and the school, learner, language and classroom factors that impact on it are a direct result of these large scale assessments.

### PIRLS 2006, 2011 and 2016

PIRLS focuses on reading comprehension of Grade 4 and 5 learners in education systems worldwide. South Africa has been one of 40-50 countries that has participated in the PIRLS international assessments in 2006, 2011 and again in 2016. PIRLS identifies four reading benchmarks that indicate that children can do at certain score point ranges:

Low International Benchmark:	Can locate basic information in a text
Intermediate Benchmark:	Can make basic inferences from information in a text
High Benchmark:	Can make more complex inferences, generalisations and interpretations in the text
Advanced benchmark:	Can integrate ideas across information, infer author stance, perceive overall themes.

PIRLS uses both narrative/fiction and information texts in its assessment. In the international PIRLS assessment for Grade 4, the texts are on average 800 words long and the questions come at the end of the passages. Later, PIRLS designed easier assessments aimed at Grade 3 level, where the texts were shorter (about 400 words on average) and questions were asked after each paragraph. These latter assessments were called *prePIRLS* in 2011, and in 2016 they were renamed as *PIRLS Literacy*.

- **2006:** In South Africa, Grade 4 and Grade 5 learners were assessed in all 11 official languages, writing the PIRLS assessment in the language of their Foundation Phase LoLT.
- **2011:** In this round of assessment, Grade 4 learners participated in *prePIRLS* in all official languages, while Grade 5 learners participated in PIRLS in English and Afrikaans.
- **2016:** In this round of assessment, Grade 4 learners participated in PIRLS Literacy (called *prePIRLS* in 2011) in all official languages, while Grade 5 learners participated in PIRLS in English, Afrikaans and Zulu.

All three rounds of testing in each year included nationally representative samples of Grade 4 learners who were assessed in whatever the language of learning and teaching was used in that school in Grades 1-3.

PIRLS also includes data collected from five sets of questionnaires, enabling the reading comprehension outcomes to be viewed within a broader context:

- Learning to read survey (parent/guardian/home)



- Learner questionnaire (learners)
- Teacher questionnaire (teaching/classroom)
- School questionnaire (principal)
- Curriculum questionnaire (national)

It is important to note that for the prePIRLS 2011 results (e.g. Howie et al., 2012) a different scale is used from the traditional PIRLS scale. This was because the prePIRLS and the PIRLS assessments were not calibrated on the same scale. The International Association for the Evaluation of Education (IEA) subsequently rescaled the prePIRLS scores to be comparable to the PIRLS scores when the 2016 PIRLS results were released. It is now possible to compare PIRLS 2006, prePIRLS 2011 and PIRLS Literacy 2016 all on the same PIRLS scale (this was not previously possible with PIRLS 2006 and prePIRLS 2011). For the South African results, 50 PIRLS points are equivalent to one year of learning in South Africa (Howie et al. 2006).

As a result of the PIRLS assessments over a 10-year period, there is a considerable amount of rich data on reading comprehension in African languages at Grade 4 level in PIRLS and prePIRLS/PIRLS Literacy (the easier version). Some of the Master's and doctoral theses and articles that have been published relating to PIRLS or prePIRLS are listed chronologically below for interested readers. Not all the articles that have been published on the South African PIRLS data have been annotated in this bibliography.

Howie S, Venter E, Van Staden S, Zimmerman L, Long C, Du Toit C, Scherman V and Archer E., 2006. *Progress in International Reading Literacy Study 2006*. University of Pretoria: Centre for Evaluation and Assessment.

Howie, S, Venter, E, van Staden, S, Zimmerman, L, Long, C, du Toit, C, Scherman, V. and Archer, E. 2008. *PIRLS 2006 Summary Report: South African Children's Reading Achievement*. Centre for Evaluation and Assessment, University of Pretoria.

Howie, S, Venter, E. and van Staden, S. 2008. The effect of multilingual policies on performance and progression in reading literacy in South African primary schools. *Educational Research and Evaluation*, 14(6):551-560.  
<http://dx.doi.org/10.1080/13803610802576775>

Van Staden, S. 2010. *Reading between the lines: Contributing factors that affect Grade 5 learner reading performance*. Unpublished PhD thesis, University of Pretoria. (A secondary analysis of the PIRLS 2006 data.)

Van Staden, S and Howie, S. 2010. *South African teacher profiles and emerging teacher factors: a picture painted by PIRLS 2006*. **Reading and Writing** Vol 1, Issue 1, pp. 47-60.

Zimmerman, L. 2010. *The influence of schooling conditions and teaching practices on curriculum implementation for Grade 4 reading literacy development*. Unpublished PhD thesis, University of Pretoria. (A secondary analysis of the PIRLS 2006 data.)

Van Staden, S. 2011. *Putting reading first: Positive effects of direct instruction and scaffolding for ESL learners struggling with reading*. **Perspectives in Education**, Vol 29, Issue 1, pp. 10-21.

- Howie S, van Staden, S, Tshele, M, Dowse, C and Zimmerman, L. 2012. ***PIRLS 2011: South African children's reading literacy achievement Summary Report***. Pretoria: University of Pretoria.
- Combrinck, C, Van Staden, S. and Roux, K. 2014. *Developing early readers: Patterns in introducing critical reading skills and strategies to South African children*. ***Reading & Writing***, Vol. 5, Issue 1, Article 45.  
<http://dx.doi.org/10.4102/rw.v5i1.45>
- Zimmerman, L. 2014. Lessons learnt: Observation of Grade 4 reading comprehension teaching in South African schools across the Progress in International Reading Literacy Study (PIRLS) 2006 achievement spectrum. *Reading and Writing* 5(1), Art. #48, 9 pages.
- Zimmerman, L and Smit, B. 2014. *Profiling classroom reading comprehension development practices from the PIRLS 2006 in South Africa*. ***South African Journal of Education***, Vol 34, Issue 3, pp. 1-9.
- Khumalo, V.L. 2015. *The effects of school conditions on learner reading achievement*. Unpublished Master's dissertation, University of Pretoria. (A secondary analysis of the PIRLS 2006 data.)
- Van Staden, S., Bosker, R. and Bergbauer, A. 2016. Differences in achievement between home language and language of learning in South Africa: Evidence from prePIRLS 2011. *South African Journal of Childhood Education*, Vol. 6, No. 1, Article 441.  
<http://www.sajce.co.za/index.php/sajce/article/view/441>
- Ackerman, C. 2017. The effect of parental involvement on Grade 4 learner literacy: evidence from prePIRLS 2011. Unpublished Master's dissertation, University of Pretoria. (A secondary analysis of the prePIRLS 2011 data.)
- Matsatse, N. 2017. Exploring Differential Item Functioning on reading achievement between English and isiXhosa language subgroups. Unpublished Master's dissertation, University of Pretoria. (A secondary analysis of the English and Xhosa prePIRLS 2011 data.)
- McLeod Palane, N. 2017. The effect of language of instruction and contextual factors on higher-order reading comprehension performance. Unpublished doctoral thesis, University of Pretoria. (A secondary analysis of the prePIRLS 2011 data.)
- Howie, S.J., Combrinck, C., Roux, K., Tshele, M., Mokoena, G.M., & McLeod Palane, N. (2017). *PIRLS Literacy 2016: South African Children's Reading Literacy Achievement*. Pretoria: Centre for Evaluation and Assessment.
- Howie, S.J., Combrinck, C., Tshele, M., Roux, K., McLeod Palane, N. & Mokoena, G.M. (2017). *PIRLS 2016 Progress in International Reading Literacy: Study 2016 Grade 5 Benchmark Participation: South African Children's Reading Literacy Achievement*. Pretoria: Centre for Evaluation and Assessment.

(The articles by Combrinck *et al.* (2014) and van Staden *et al.* (2016) are included in the annotations of studies on comprehension in the Intermediate Phase below.)

Pretorius, E.J. and Mampuru, D.M. 2007. *Playing football without a ball: Language, reading and academic performance in a high poverty school*. *Journal of Research in Reading*, Vol. 30, No. 1, pp. 38-58.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9817.2006.00333.x/full>

**Key words:** L1 reading, L2 reading, (additive) bilingualism, reading comprehension, academic performance, access to print material

<b>Participants and Context</b>	104 Northern Sotho Grade 7 learners (with English as L2) Quintile 1 township primary school in Gauteng
<b>Measures</b>	Dictation test in Northern Sotho and English Reading comprehension tests in Northern Sotho and English (similar, with literal and inference questions, cloze items, anaphoric resolution items)

In this article the language/reading questions in the L2 reading debate are examined from an African perspective, using data from a high poverty urban primary school attended by mainly Northern Sotho learners, where Northern Sotho is used as the LoLT in Foundation Phase and English First Additional language becomes the LoLT from Grade 4 onwards. The authors argue that discussions of literacy accomplishment in the African context must take into account three macro variables, viz. the complex linguistic fabric of African communities, widespread poverty, and generally low adult literacy levels. All these variables impact crucially on the educational context and give it diverse shapes and outcomes.

Language and reading comprehension in each language was tested at the beginning of the year and then again at the end of the year, first in English and then in Northern Sotho after a 3-week interval. Overall, reading comprehension levels were generally low in both languages, and reading rates were slow. By the end of the year, reading comprehension in English was slightly better than in Northern Sotho. Although large discrepancies occurred between performance on the language measure and reading comprehension in the same language, the correlation between language and reading was more robust in English than in Northern Sotho. L1 proficiency did not significantly predict L1 reading performance. Instead, L2 reading was a far stronger predictor of L1 reading ability. It is suggested that this may be due to the fact that what little reading these learners do, tends to be done in the L2. Reading skills developed in a dominant language can seem to support the development of reading skills in a language in which reading is not often done.

The authors argue that the findings highlight the importance of examining more closely the ways in which factors such as quality of teaching, time spent on task, class size, availability of and access to books affect language and reading accomplishment in the L1 and L2. More carefully controlled quasi-experimental studies, the use of a variety of assessment tools, qualitative research involving classroom observations, and case studies of individual learners would help gain greater understanding of language and reading interactions in bilingual reading research in learning contexts that are so vastly different from those that generally prevail in more affluent developed countries.

Pretorius, E.J. 2012. *Butterfly effects in reading? The relationship between decoding and comprehension in Grade 6 high poverty schools. Journal for Language Teaching*, Vol. 46, No. 2, pp. 74-95.

**Key words:** Decoding, precursor reading skills (word recognition, oral reading fluency), reading comprehension, academic literacy, high poverty schools

Although one aspect of this article deals with decoding and comprehension skills in English of Grade 6 learners, the first half of the article presents longitudinal data over two years (2008-2009) of the reading comprehension skills of 306 Grade 6 learners in Northern Sotho and English, and is therefore included in the annotated bibliography.

<b>Participants and Context</b>	305 Grade 6 Northern Sotho learners over two years (2008-2009) School A was a Quintile 1 township school in Gauteng with Northern Sotho as LoLT in Foundation Phase and English as LoLT in Grade 4 School B was a Quintile 3 township school in Gauteng with English as LoLT and Northern Sotho as language subject from the start of schooling.
<b>Measures</b>	Longitudinal data over 2 years (2008-2009), at beginning (Feb) and end (Nov) of each year (School A = 150; School B = 155; total = 305 ) Reading comprehension (literal, inferential questions, vocabulary, cloze items, visual literacy – graphs, maps), similar in Northern Sotho and English, texts taken from Grade 6 textbooks Subsample of learners from School B from each year tested individually on phonemic awareness, word recognition and oral reading fluency in English (n=79)

Using the metaphor of butterfly effects, this paper considers how literacy inequalities in comprehension performance amongst Grade 6 learners in high poverty schools can be linked to skills that should have been developed in earlier stages of reading development. One component of the article looks at the reading comprehension skills of Grade 6 learners in the home language, Northern Sotho, and in English in two disadvantaged primary schools, assessed over a 2-year period, using large group pen-and-paper tests. Generally, reading comprehension levels were low, irrespective of language. Early home language instruction did not confer obvious advantages on academic literacy skills such as sequencing of events, inferencing and comprehension of visual aids; School B performed better on comprehension in both Northern Sotho and English than School A. Across both schools, learners at the 75<sup>th</sup> percentile showed greater reading growth from beginning to end of year than learners at the 25<sup>th</sup> and 50<sup>th</sup> percentiles.

The second component of the article focuses on a smaller sample of learners were then also tested individually for English decoding skills each year to see if English decoding competence could shed light on the English comprehension levels and differential reading effects amongst learners. Strong correlations were found between three measures of decoding skills and reading comprehension, with oral reading fluency a strong predictor of comprehension. The pedagogical implications of these findings for early reading instruction in South African classrooms are briefly discussed.

Mkhize, D.N. 2013. The nested contexts of language use and literacy learning in a South African fourth grade class: Understanding the dynamics of language and literacy practices. Unpublished doctoral thesis, University of Illinois at Urbana-Champaign.

**Key words:** Home and school language practices, bilingual language and literacy, Foundation Phase and Grade 4 classroom practices, agentive learning, transfer of skills

<b>Participants and Context</b>	Grade 4 learners in a rural primary school in KZN (school quintile not mentioned)
<b>Measures</b>	Classroom observations Interviews with teachers, learners, principal, parents/guardians Reading and writing assessment of learners in Zulu and English

This is a qualitative case study that examines the Zulu and English language and literacy practices of Grade 4 learners, framed mainly within sociocultural theories of language and literacy. Although the language of learning and teaching (LoLT) is English as a first additional language in a South African Grade 4 classroom, the LoLT was in the learners' home language, Zulu, during the Foundation Phase (Grades R-3). Although the researcher was interested in the Grade 4 class as a whole, she selected six focal students, of which data from four are presented in the study, where their strengths and weaknesses in the use of Zulu and English language and literacy are examined. Data was collected from classroom observations, interviews with Grade 4 teachers as well as Foundation Phase teachers, principals, and the case study learners. The four learners' performance in reading and writing tasks was also assessed. In addition, data on their home language and literacy practices were also obtained through home visits and interviews with the learners and their parents/guardians, to establish if there were any tensions between these practices and the school language and literacy practices.

Findings from the classroom observations suggested that teacher classroom practices limited the students' learning of literacy, and there was very little room for agentive learning. Despite differences in literacy performance in both Zulu and English, all four learners showed evidence of transfer of skills across the two languages. The author argues that teachers of bilingual and biliterate learners need to be equipped with academic and professional knowledge in L2 and L2 literacy pedagogy. The author also suggests that teachers and researchers should find out about learners' home language and literacy practices and build on these to support language and literacy in the schooling context.

Although the study provides a wealth of qualitative data, standard ways of assessing learners' reading abilities (e.g. on word recognition and oral reading fluency tasks) are not used in this study, so it is difficult to determine the four case study learners' reading levels in the two languages.



Combrinck, C., Van Staden, S. and Roux, K. 2014. *Developing early readers: Patterns in introducing critical reading skills and strategies to South African children. Reading & Writing*, Vol. 5, No. 1, Article 45.

<http://www.rw.org.za/index.php/rw/article/view/45>

**Key words:** Early home literacy activities, parental interaction, reading skills and strategies, early reading instructional focus

<b>Participants and Context</b>	Parents of Grade 4 learners and principals in 342 schools across all provinces in SA, stratified by language so that learners were assessed in all African languages
<b>Measures</b>	Questionnaire survey for parents on early home literacy activities Questionnaire survey for principals on introduction of early reading skills and strategies

This article draws on data collected for the preProgress in Reading Literacy Study (prePIRLS) (2011), in which 15,744 Grade 4 learners in South Africa were tested for reading comprehension skills across all African languages as well as Afrikaans and English. The Grade 4 learners were tested in the language which served as the LoLT during the Foundation Phase. The prePIRLS results from 2011 showed that as many as 29% of South African Grade 4 learners did not reach the Low International Benchmark in prePIRLS 2011, not having mastered basic reading skills. A majority of 71% of South African Grade 4 learners reached the Low International Benchmark. These learners are unable to make straightforward inferences, integrate ideas and evidence across text or interpret events to provide reasons, motivations or feelings with full text-based support.

The article examines how often South African parents engage in early home reading activities with their preschool learners and when critical reading skills and strategies first receive major instructional emphasis in primary schools. In all, 14 reading skills and strategies are identified, ranging from basic to ones with increasing complexity. The focus then shifts to the effect of early home literacy activities and the early introduction of and exposure to comprehension skills and strategies in the classroom on Grade 4 reading achievement scores.

The study found a delayed introduction of four critical reading skills and strategies in the Foundation Phase, despite an indication in the curriculum that these activities should be introduced in Grade 1. These neglected reading skills and strategies included reading isolated sentences, reading connected text, locating information within text and identifying the main idea of a text. The findings indicate that early home literacy activities which, when conducted frequently by parents before the child starts school, have a positive impact on Grade 4 reading achievement, especially if reading skills and strategies are introduced early in primary schools. Learners have a higher chance of mastering reading skills if parents engage in literacy activities with their preschool children and if schools have a strong focus on early instruction in a range of basic reading skills.

Van Staden, S., Bosker, R. and Bergbauer, A. 2016. *Differences in achievement between home language and language of learning in South Africa: Evidence from prePIRLS 2011*. *South African Journal of Childhood Education*, Vol. 6, No. 1, Article 441. <http://www.sajce.co.za/index.php/sajce/article/view/441>

**Key words:** Language in Education Policy, reading comprehension, prePIRLS reading literacy assessment, Grade 4 reading,

<b>Participants and Context</b>	15,744 Grade 4 learners (from 342 schools across all provinces in SA, stratified by language so that learners were assessed in all official languages) Learners assessed in language that had been the LoLT during Grades 1-3
<b>Measures</b>	Reading literacy assessment from prePIRLS 2011 (comprehension of narrative and information texts) Learner and school asset scales

This study explores the complexities inherent in the Language in Education Policy Language, which attempts to promote language equity and quality education in all 11 official languages in South Africa. The study employs secondary analysis of the prePIRLS 2011 Grade 4 reading comprehension data in all nine African languages as well as English and Afrikaans to examine discrepancies in reading performance between the language of the test and home language for learners. In all, 15,744 Grade 4 learners were assessed in the language that had been the LoLT during Grades 1-3. In total, 66.5% of learners did the prePIRLS 2011 test in their home language, while 22.6% of learners did the test in a language different from their home language.

In general, Grade 4 learners were unable to achieve satisfactory levels of reading competence. Results showed that testing in African languages predicted significantly lower results as compared to English. However, exponentially worse results by as much as 0.29 points lower of a standard deviation occurred when the African language of the test did not coincide with the learners' African home language, when controlling for learner background characteristics. In most languages, the achievement was substantially higher when learners wrote in their home language, with the exception of Afrikaans, isiZulu and Sepedi where there were no significant differences. The analysis shows evidence that exposure to a language that at least shares linguistic similarities to the home language could have a positive effect. The authors argue that the complexity of the language in education context of the South African education system, coupled with lack of adequate infrastructure and language resources in disadvantaged communities, continue to contribute to the widening educational gap and poor quality education despite goals of equity and equality.



## PART 3C: HIGH SCHOOL

Very few articles currently exist that examine the reading abilities of high school learners in African languages, or that relate to academic literacy in African languages at higher levels in the formal education sector, using empirical evidence.

Matjila, D.S. and Pretorius, E.J.. 2004. *Bilingual and biliterate? An exploratory study of Grade 8 reading skills in Setswana and English*. *Per Linguam*, Vol. 20, No. 1, pp. 1-21.  
<http://perlinguam.journals.ac.za/pub/article/view/77>

**Keywords:** Biliteracy, cognitive academic literacy, reading skills in high school,

<b>Participants and Context</b>	88 Grade 8 learners in a disadvantaged township high school in Gauteng
<b>Measures</b>	Reading comprehension tests in Setswana and English based on an information passage and a cloze passage. Vocabulary and inferential questions using multiple-choice format Additional components relating to anaphoric references and vocabulary inferences in the English test A 41-item questionnaire to examine learner reading attitudes, practices and access to reading material

This was an exploratory pilot study undertaken at a time when there was a virtual absence of South African reading research in schools. The aim was to assess entry high school learners' reading skills in their home language, Setswana, and their LoLT, English, and to examine their attitudes to reading, their perceptions of themselves as readers and their access to reading material. The findings indicated that the learners did not read well in either their home language or in English. A significant correlation of .58 between performance in both languages suggested a relationship between reading skill in the two languages. Despite the absence of reading norms in African languages, the slow reading rates in both languages indicate a lack of familiarity with reading. The fact that learners come into high school with poor reading abilities strongly suggests that reading is not regarded as a priority in primary schools. The overall poor reading performance suggested that the learners were not developing either home language or English CALP skills. Responses to the questionnaire revealed a mismatch between the learners' generally optimistic perceptions of their reading abilities and their actual scores in the reading tests. Furthermore, the learners were not exposed to varied literacy practices within their home or school environments. The little exposure that the learners had to books and reading occurred within formal schooling; yet even within these formal parameters, reading was not given adequate attention.

The authors identify several implications following from the results. They urge language planners and educators to promote the African languages through additive bilingualism and to recognise that the development of CALP skills in learners' home languages can only be properly realised if opportunities are created for extensive reading of a variety of texts in the African languages. This calls for incentives to encourage the writing of fiction in the

African languages for children and teenagers through language boards and publishing houses. The authors conclude that more research is needed on literacy development and reading abilities in the African languages and suggest that research partnerships between African language departments and education faculties at tertiary level could play an important and leading role in reading research in this country.

This modest study is one of the earliest on reading in Setswana in high school. It is sobering to note that the findings and recommendations have not changed much in the intervening years.

Wildsmith-Cromarty, R. 2012. *Reflections on a research initiative aimed at enhancing the role of African languages in education in South Africa*. **Journal for Language Teaching**, Vol. 46, No. 2, pp. 157-170.

<http://dx.doi.org/10.4314/jlt.v46i2.10>

**Key words:** Conceptual learning, language for academic purposes, code-switching, terminology development, multilingual resource books

Although this article is not about reading, it deals with the development of African languages as academic languages for conceptual learning at secondary and tertiary levels. Because it engages with critical issues related to 'book language' and academic literacy in African languages it was decided to include it in the annotated bibliography.

<b>Participants and Context</b>	27 Maths and Science Zulu-speaking teachers from a range of high schools across the socio-economic spectrum in the Pietermaritzburg area  Evaluation of multilingual resource books describing core concepts in mathematics, geography, physics, chemistry and biology in English, Afrikaans, Zulu and Xhosa: Young, D.N., Van der Vlugt, J. and Qanya, S. 2005. <i>Understanding concepts in mathematics and science</i> . Cape Town: Maskew Miller Longman.
<b>Measures</b>	Data on responses to and use of the multilingual resource books were drawn from questionnaires, focus groups, discussions in workshops, and classroom observations of maths and science lessons over a 2-month period

In this article the author explores some of the challenges that arise when using home language for instructional purposes in content subjects at the GET and FET levels. Although code-switching is an established practice in classrooms throughout South Africa, the challenge is how to harness it to enhance conceptual development in the home language. The author refers to the poor literacy and numeracy results from large scale studies in South Africa, and identifies contributory causes to this situation, such as the fact that African languages are not used as languages of learning in formal educational contexts beyond the first four (sic) years of primary schooling. Other factors contributing to poor concept learning stem from the inadequate proficiency levels of some teachers in the LoLT (usually English) or poorly trained in their content subjects. It is within this context that the multilingual resource books were conceptualised in an effort to enhance teachers' subject knowledge and improve conceptual learning in the classroom.

This article discusses the findings from research into the use of resource books for teachers of mathematics and science in secondary schools in KZN. The author argues that the use of translations and the establishment of term and word lists may not be enough to develop deep learning of key concepts in different content subject domains. Instead, the author calls for a more holistic approach that includes language provision and management, professional translation and back translation, and more inclusive methods of terminology development with richer contextualisation to resolve terminology challenges and disputes. In addition, the enrichment of teacher content knowledge and pedagogic content knowledge in African home languages is called for. In order to more fully valorise African languages and their potential to serve as academic languages, the gap between the informal

everyday use of African languages and the variety selected for academic purposes will need to be narrowed.

Other references related to the research project mentioned in this article include:

Wildsmith-Cromarty, R. and Gordon, M. 2009. *Policy versus practice: the role of the home language in learning mathematics and science in English-medium classrooms*. ***The Language Learning Journal***, Vol. 37, No. 3, pp. 359-370.

Schafer, M. 2005. *Mathematics registers in indigenous languages: Experiences from South Africa*. In: Sparrow, L., Kissane, B. and Hurst, C. (Eds.). ***Shaping the future of mathematics education: Proceedings of the 33rd annual conference of the Mathematics Education Research Group of Australasia***. Freemantle, Western Australia: Mathematics Education Research Group of Australasia pp. 509-514  
<http://files.eric.ed.gov/fulltext/ED521408.pdf>

## **PART 3D: ADULT READERS**

No articles were found that deal specifically with reading comprehension in African languages amongst adult readers.

## PART 4

### CLINICAL RESEARCH AND ASSESSMENT

The articles in this section deal primarily with the assessment of children who have language or literacy challenges in the African languages. Most of the standardised assessment tools for identifying specific language or reading impairments have been developed in English (and other major European languages) so the focus here is usually on determining the appropriacy of such assessment tools in a different cultural and linguistic context, and the way in which such assessment tools can be adapted in linguistically appropriate and culturally sensitive ways for use in African languages.

Koch, E. 2009. *The case for bilingual language tests: a study of test adaptation and analysis. Southern African Linguistics and Applied Language Studies*, Vol. 27, Issue 3, pp. 301–317.  
<https://doi.org/10.2989/SALALS.2009.27.3.8.942>

**Key terms:** Bilingual testing, Woodcock-Muñoz Language Survey, English/Xhosa tests, linguistic equivalence, construct equivalence, statistical equivalence, differential item function (DIF) analysis

Participants & Context	<p><b>First round of testing</b>  176 Grade 6 &amp; 7 Xhosa learners  145 Grade 6 &amp; 7 English learners</p> <p><b>Second round of testing</b>  188 Grade 6 &amp; 7 Xhosa learners  198 Grade 6 &amp; 7 English learner</p> <p>rural/urban ratio for Xhosa learners 30:70 and for English learners 40:60</p>
Measures	<p>The four subtests of the Woodcock Muñoz Language Survey:</p> <ul style="list-style-type: none"> <li>• Picture vocabulary</li> <li>• verbal analogies</li> <li>• Letter word recognition</li> <li>• Dictation</li> </ul>

In this article the author argues that the test development and design should serve human development goals and human interests, and that the purposes of tests should enhance the potential for education and human development and not undermine it through poorly designed or culturally inappropriate or biased tests. Tests used in bilingual or multilingual contexts should thus meet “the soundest theoretical and empirical bases possible” (p. 301).

The context for the research reported in the article stems from a mother tongue based additive bilingual intervention programme implemented in the rural areas of the Eastern Cape, where Xhosa was used as the main language of instruction at school up to Grade 6, with English as an additional language of teaching and learning incrementally phased in from Grade 4 in some learning areas only. A test of academic language proficiency was sought in order to monitor the language outcomes of the project. To this end, the Woodcock- Muñoz Language Survey was selected and versioned into Xhosa.

The article reports of the procedures followed and some of the results obtained, following attempts to adapt the Woodcock Muñoz Language Survey into Xhosa (and also adapting the English version into one more suited to a South African audience, although this is not the focus of the article). The Woodcock Muñoz Language Survey is a bilingual Spanish/English test of cognitive academic language proficiency that is widely used in the USA for the evaluation of bilingual programmes. It consists of four subtests comprising an expressive picture vocabulary test, a verbal analogies test, a letter word recognition test and a dictation test.

After receiving permission for the test to be adapted into Xhosa, a team of translators, educators, linguists and a psychometrist started the process of adapting the test. The author provides a meticulous account of the processes that were followed during the workshops to translate and adapt the test, a Differential Item Functioning (DIF) analysis of the items of the two versions of the test, some of the steps that were taken to address problems in the initial adaptation of the test into Xhosa, the results of an evaluation of the construct equivalence of the two versions and some of the lessons learned in the process.

This article draws attention to the need for tests in different languages in bilingual education settings, and highlights the practical, conceptual, methodological and statistical rigors and challenges in achieving this aim, as well as the benefits of having well designed and reliable language and literacy tests in bilingual/multilingual educational contexts.



Van der Merwe, A and Le Roux, M. 2014. *Idiosyncratic sound systems of the South African Bantu languages: Research and clinical implications for speech-language pathologists and audiologists*. **South African Journal of Communication Disorders**, Vol, 1, No. 1, Article 86.

<http://sajcd.org.za/index.php/sajcd/article/view/86n>

This article provides a description of the vowel and consonant structures of Zulu (as representative of the Nguni family) and Setswana (as representative of the Sotho language family), and how they differ from a Germanic language such as English. The discussion focuses mainly on the sound system features and the associated motoric mechanisms that are characteristic of Zulu and Setswana but which are not present in Germanic languages. The aim of the article is to raise awareness amongst speech-language pathologists and audiologists of the differences in the sound systems of these languages and to point out some of the research and clinical implications.

Although the focus of the article is on the possible impact of speech production, language and hearing disorders on the ability to produce and perceive speech in these languages, the linguistic descriptions of the language-specific features (e.g. the vowels and consonants) may also be of interest to teachers who are involved in learners' development of literacy in these languages.

Wilsenach, C. 2016. *Identifying phonological processing deficits in Northern Sotho-speaking children: use of non-word repetition as a language assessment tool in the South African context*. **South African Journal of Communication Disorders**, Vol. 63 No. 2, pp. 17-32  
<http://sajcd.org.za/index.php/sajcd/article/view/145>

**Key words:** Identification of phonological processing skills in Northern Sotho, non-word repetition, phonological working memory, word reading, passage reading, standardising literacy assessment measures in African languages

<b>Participants and Context</b>	120 Grade 3 bilingual Northern Sotho and English learners Group 1 (n=60) had Northern Sotho as LoLT and English as First additional language; Group 2 (n=60) had English as LoLT with Northern Sotho as First additional language Quintile 1 and 2 township schools
<b>Measures</b>	Non-word repetition (NRT) in Northern Sotho, and English (CTOPP) phonological working memory (PWM) in Northern Sotho and English Word reading in Northern Sotho and English (1-minute timed test) passage reading in Northern Sotho and English (1-minute timed test)

The study points to the paucity of reliable, standardised diagnostic tests for speech/language skills in African languages in South Africa. Simply translating standardised tests from English into African languages is inadequate as it is fraught with linguistic and cultural challenges. Due to the need to develop clinical language assessment instruments that can be used in the South African context, this study reports on a pilot study that collected data from 120 Grade 3 learners who were Northern-Sotho speaking but were acquiring English in two different formal schooling contexts (as LoLT and as First Additional language). The study describes the design of the Northern Sotho non-word repetition task (NRT), based on the phonological and orthographical features of the language. The NRT measures various aspects of phonological processing, including phonological working memory, all of which have been found to play an important role in early reading development in languages with an alphabetic script, and which help to identify children at risk of reading failure. The Northern Sotho NRT comprised 4-7 syllable words, while the English NRT contained 1-10 syllable words. In this study, the NRT showed moderate to strong correlations with other measures of phonological working memory, and discriminated well between children with strong and weak Northern Sotho phonological processing ability, regardless of the LoLT. The NRT was also positively associated with word reading and passage reading (i.e. reading fluency) in Northern Sotho. The author argues that the developed Northern Sotho NRT is a useful and reliable instrument for identifying children with poor phonological processing skills. The author further suggests that adding longer and articulatory more complex non-words to the current version of the Northern Sotho NRT will improve it. Once this has been done, it would be worthwhile standardising the test as it is easy to administer and does not take long in terms of assessment time.

## PART 5: TEACHERS AND CLASSROOM LITERACY PRACTICES IN THE AFRICAN SCHOOLING CONTEXT

Issues relating to classroom literacy practices in South Africa, to teachers' own literacy practices and their perceptions of and attitudes to reading were not within the original ambit of the annotated bibliography. However, reading abilities in African languages do not occur in a vacuum; reading develops within specific community and schooling contexts that are affected by larger socioeconomic and sociocultural factors. Attention has also recently been drawn to the lack of training in preservice teacher training courses on *how* to teach reading, let alone reading in the African languages. Several postgraduate studies have investigated issues related to teacher literacy training and teacher literacy practices, and articles relating to these issues have been published locally.

They are not annotated but are simply listed here in alphabetical order for interested readers.

Gains, P. 2010. *Learning about literacy: Teachers' conceptualisations and enactments of early literacy pedagogy in South African Grade One classrooms*. Unpublished doctoral thesis, Johannesburg, University of the Witwatersrand.

Khumalo, V.L. 2014. *The effects of school conditions on learner reading achievement*. Unpublished MA dissertation, University of Pretoria. (A secondary analysis of the PIRLS 2006 data.)

Lukhele, B.B.S. 2013, *Exploring relationships between reading attitudes, reading ability and academic performance amongst primary teacher trainees in Swaziland*. **Reading & Writing**, Vol. 4, No. 1, Article 28.  
<http://www.rw.org.za/index.php/rw/article/view/28>

Mather, N. and Land, S. 2015. *Exploring educators' understanding of developing learners' reading skills and their readiness to implement CAPS*. **Journal for Language Teaching**, Vol. 48, No. 2, pp. 199–215.  
<http://dx.doi.org/10.4314/jlt.v48i2.9>

Mudzielwana, N.P, Joubert, I., Phatudi, N.C. and Hartell, C.G. 2012. *Teaching reading comprehension to Grade 3 Tshivenda-speaking learners*. **Journal of Educational Studies**, Vol 11, No. 1, pp. 67-84.

Nel, C. 2011. *Classroom assessment of reading comprehension: How are preservice Foundation Phase teachers being prepared?* **Per Linguam**, Vol. 27, No. 2, pp. 40-63.  
<http://perlinguam.journals.ac.za/pub/article/view/107>

Nkosi, I.N. 2012. *An exploration of the teaching beliefs and practices of Adult Basic Education and Training teachers of reading*. MEd thesis, School of Education, University of KwaZulu-Natal, Pietermaritzburg.

Pretorius, E.J. and Knoetze, J.J.. 2012. *The teachers' book club: Broadening teachers' knowledge and building self-confidence*. **Mousaion**, Vol. 31, No. 1, pp. 27- 46.

- Pretorius, E.J. and Klapwijk, N.M. 2016. *Reading comprehension in South African schools: Are teachers getting it, and getting it right?* **Per Linguam**, Vol. 32, No. 1, pp. 1-20.  
<http://perlinguam.journals.ac.za/pub/article/view/627>
- Pretorius, E.J. and Machet, M.P. 2004. *The socio-educational context of literacy accomplishment in disadvantaged schools: lessons for reading in the early primary school years.* **Journal of Language Teaching**, Vol. 38, No. 1, pp. 45-62.
- Rimensberger, N. 2014. *Reading is very important, but ...: Taking stock of South African student teachers' reading habits.* **Reading & Writing**, Vol. 5, No. 1, Article 50.  
<http://www.rw.org.za/index.php/rw/article/view/50>
- Rule, P. and Land, S. 2017. *Finding the plot in South African reading education.* **Reading & Writing**, Vol. 8, No 1, Article 121  
<https://rw.org.za/index.php/rw/article/view/121/326>
- Taylor, N. 2016. *Thinking, language and learning in initial teacher education.* **Perspectives in Education**, Vol. 34, No. 1, pp. 10-26.
- Van Staden, S. and Howie, S. 2010. *South African teacher profiles and emerging teacher factors: a picture painted by PIRLS 2006.* **Reading & Writing**, Vol. 1, No. 1, pp. 47-60.  
<http://www.rw.org.za/index.php/rw/article/view/4>
- Van Staden, S. and Zimmerman, L. 2017. *Evidence from the Progress in International Reading Literacy Study (PIRLS) and how teachers and their practice can benefit.* In: Scherman, V, Bosker, R.J. and Howie, S.J. (Eds). **Monitoring the quality of education in schools**. Rotterdam: Sense Publishers, pp. 123-138.
- Verbeek, D.C.. 2010. *Teaching reading for meaning? A case study of the initial teaching of reading in a mainstream South African school.* Unpublished doctoral thesis, Pietermaritzburg: University of KwaZulu-Natal.
- Zimmerman, L. 2010. *The influence of schooling conditions and teaching practices on curriculum implementation for Grade 4 reading literacy development.* Unpublished PhD thesis, University of Pretoria. (A secondary analysis of the PIRLS 2006 data.)
- Zimmerman, L. 2014. *Lessons learnt: Observation of Grade 4 reading comprehension teaching in South African schools across the Progress in International Reading Literacy Study (PIRLS) 2006 achievement spectrum.* **Reading & Writing**, Vol. 5, No. 1, Article 48.  
<http://www.rw.org.za/index.php/rw/article/view/45>

## PART 6: READING RESEARCH IN DIFFERENT AFRICAN LANGUAGES (cross reference listing)

The articles in this section are listed according to four main African language groupings, viz. languages belonging to the **Nguni** language family (Xhosa, Zulu, Ndebele and Swati), the **Sotho** language family (Northern Sotho, Southern Sotho and Tswana), and the two minority African languages (Venda and Tsonga). Articles dealing with reading in African languages beyond South Africa's borders are listed as **Other African languages**.

### PART 6A: NGUNI LANGUAGES

Diemer, M.N.. 2015. The contributions of phonological awareness and naming speed to the reading fluency, accuracy, comprehension and spelling of Grade 3 isiXhosa readers. Unpublished MA dissertation. Grahamstown: Rhodes University.

Diemer, M., Van der Merwe K.. and de Vos M. 2015. *The development of phonological awareness literacy measures for isiXhosa*. ***Southern African Linguistics and Applied Language Studies***, Vol. 33, No. 3, pp. 325-341.  
<http://dx.doi.org/10.2989/16073614.2015.1108769>

Gxowa-Dlayedwa, N.C. 2015. *Ukufundisa izicuku zeziqhakancu emagameni*. ***Per Linguam***, Vol. 31, No. 3, pp. 32-48.  
<http://perlinguam.journals.ac.za/pub/article/view/622>

Koch, E. 2009. The case for bilingual language tests: a study of test adaptation and analysis. *Southern African Linguistics and Applied Language Studies*, Vol. 27, Issue 3, pp. 301-317.  
<https://doi.org/10.2989/SALALS.2009.27.3.8.942>

Land, S. 2015. Reading isiZulu: reading processes in an agglutinative language with a transparent orthography. Unpublished PhD thesis, Pietermaritzburg: University of KwaZulu-Natal.

Land, S. 2015. *Zulu orthography and reading*. ***South African Journal of African Languages***, Vol. 35, No. 2, pp. 163-175  
<http://dx.doi.org/10.1080/02572117.2015.1113000>

Land, S. 2015. *Skilled reading in isiZulu: what can we learn from it?* ***Journal of Education***, No. 63, pp. 57-87.  
[http://joe.ukzn.ac.za/Libraries/No\\_63\\_2015/Skilled\\_reading\\_in\\_isiZulu\\_What\\_can\\_we\\_learn\\_from\\_it.sflb.ashx?download=true](http://joe.ukzn.ac.za/Libraries/No_63_2015/Skilled_reading_in_isiZulu_What_can_we_learn_from_it.sflb.ashx?download=true)

Land, S. 2016. *Automaticity in reading in isiZulu*. ***Reading & Writing***, Vol 7, No. 1, Article 90.  
<http://www.rw.org.za/index.php/rw/article/view/90>

- Ntuli, C.D. and Pretorius, E.J. 2005. *Laying foundations for academic language competence: The effects of storybook reading on Zulu language, literacy and discourse development. Southern African Linguistics and Applied Language Studies*, Vol. 23, No. 1, pp. 91-109.  
<http://dx.doi.org/10.2989/16073610509486376>
- Pretorius, E.J. 2015. *Failure to launch: Matching language policy with literacy accomplishment in South African schools. International Journal for the Sociology of Language*, Vol. 2015, No. 234, pp. 47-76. (Zulu)  
<https://doi.org/10.1515/ijsl-2015-0004>
- Pretorius, E.J. and Machet, MP. 2008. *The impact of storybook reading on emergent literacy: Evidence from poor rural areas in KwaZulu-Natal, South Africa. Mousaion*, Vol. 26, No. 2, pp. 206-234.
- Probert, T. 2016. A comparative study of syllables and morphemes as literacy processing units in word recognition: IsiXhosa and Setswana. Unpublished MA dissertation. Grahamstown: Rhodes University.
- Probert, T. and M. de Vos. 2016. *Word recognition strategies amongst isiXhosa/English bilingual learners: the interaction between orthography and language of learning and teaching. Reading & Writing*, Vol. 7, No. 1, Article 84.  
<http://www.rw.org.za/index.php/rw/article/view/84>
- Rees, SA. 2016. Morphological awareness in readers of isiXhosa. Unpublished MA dissertation, Rhodes, University, Grahamstown.
- Van der Merwe, A and Le Roux, M. 2014. *Idiosyncratic sound systems of the South African Bantu languages: Research and clinical implications for speech-language pathologists and audiologists. South African Journal of Communication Disorders*, Vol, 1, No. 1, Article 86.  
<http://sajcd.org.za/index.php/sajcd/article/view/86> (Zulu and Setswana)
- Van Rooy, B. and Pretorius, E.J. *Is reading in an agglutinating language different from an analytic language? An analysis of Zulu and English reading based on eye movements. Southern African Linguistics and Applied Language Studies*, Vol. 31, No. 3, pp. 281-387.



## PART 6B: SOTHO LANGUAGES

- Department of Basic Education. 2017. *The Early Grade Reading Study (EGRS). Policy Summary. Results of Year 2 Impact Evaluation*. Pretoria: Department of Basic Education.  
<https://www.education.gov.za/Portals/0/Documents/Publications/EGRS%20Policy%20Summary%20Report.pdf?ver=2017-08-15-092224-000>
- Lekgoko, O. and Winskel, H. 2008. *Learning to read in Setswana and English: cross-language transference of letter-knowledge, phonological awareness and word reading skills. Perspectives in Education*, Vol. 26, No. 4, pp. 57-73.
- Makalela, L. and Fakude, P.F. 2014. 'Barking' at texts in Sepedi oral reading fluency: Implications for edumetric interventions in African languages. *South African Journal of African Languages*, Vol. 34, Supplement 1, pp. 71-78.  
<http://dx.doi.org/10.1080/02572117.2015.896538>.
- Makaure, Z.P. 2017. Phonological processing and reading development in Northern-Sotho – English bilinguals. Unpublished MA dissertation. Pretoria: University of South Africa.
- Malda, M, Nel, C. and van de Vijver, F.J.R. 2014. *The road to reading for South African learners: The role of orthographic depth. Learning and Individual Differences*, Vol. 30, pp, 34-45. (Setswana)  
<http://dx.doi.org/10.1016/j.lindif.2013.11.008>
- Matjila, D.S. and Pretorius, E.J.. 2004. *Bilingual and biliterate? An exploratory study of Grade 8 reading skills in Setswana and English. Per Linguam*, Vol. 20, No. 1, pp. 1-21.  
<http://perlinguam.journals.ac.za/pub/article/view/77>
- Mohohlwane, N.L. 2016. The contribution of randomised control trials (RCTs) to improving education evaluations for policy: evidence from developing countries and South African case studies. Unpublished MA dissertation. Johannesburg, University of the Witwatersrand. (Tswana Grade 1 data discussed in Chapter 5.)
- Pretorius, E.J. and Mampuru, D.M. 2007. *Playing football without a ball: Language, reading and academic performance in a high poverty school. Journal of Research in Reading*, Vol. 30, No. 1, pp. 38-58. (Northern Sotho)  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9817.2006.00333.x/full>
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## PART 7: FULL LIST OF REFERENCES (alphabetic)

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