BENCHMARKS REPORT

Afrikaans Early Grade Reading

JULY 2022

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Funda Wande
Reading for Meaning

University of Cape Town · Iyunivesithi yaseKapa · Universiteit van Kaapstad

Western Cape Government
Education

SALDRU
Southern Africa Labour and Development Research Unit

Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

BENCHMARKS REPORT

Afrikaans Early Grade Reading

July 2022

Prof Cally Ardington (SALDRU, University of Cape Town)

Nompumelelo Mohohlwane (Department of Basic Education)

Dr Zelda Barends (Stellenbosch University)

ACKNOWLEDGEMENTS

The instrument design, data collection, analysis and writing of this report were funded by Funda Wande. Contributions by Nompumelelo Mohohlwane were funded by the Department of Basic Education.

The work would not have been possible without the support, participation and quality assurance of the Western Cape Education Department (WCED) through Almaret du Toit and Albertha van der Merwe.. In addition to funding, Nangamso Mtsatse, Portia October and Janine Jantjies at Funda Wande actively engaged with and supported the project. Finally, the work benefited from linguistic knowledge and contributions from Christine Du Toit and Jeanette Brits from North West University.

DG FOREWORD

The mastery of reading in the early grades continues to be a sector priority underpinning the foundational skills required for a successful learning trajectory for South African young learners and South Africa at large. The importance of these early skills continues to be highlighted as the bedrock upon which all later skills are developed.

This report is part of the sector efforts to support early grade reading mastery for both teachers and learners, forming part of the complementary documents for implementing the national curriculum. It contributes to a broader approach for reading in African languages and English respectively as well as specifically adds to the Nguni reading benchmark report launched in 2020.

South Africa has 11 official languages that differ in terms of structure and complexity. While there are benchmarking elements in all languages embedded in the curriculum, there has historically not been a comprehensive or systematic benchmarking process. Although the Afrikaans language has enjoyed a significant investment historically, engagement with the Afrikaans language board shows that there is a lack of large-scale Afrikaans assessments and data collection efforts that aim to foster learning and developing tools that incorporate emergent literacy, decoding and writing in line with current standards and curriculum expectations.

This report serves as an effort to support learners receiving their education in Afrikaans. It also serves to empower and equip teachers, parents, universities and the sector at large with educationally meaningful and scientifically valuable approaches to support the teaching of reading in Grade 1 through to Grade 3. We hope that along with all the other complementary efforts these benchmarks will contribute to the improvement of reading in the country.

Even as this work was led by the Department of Basic Education, it was only possible through broad stakeholder collaboration. The data used for this language group was based on studies funded by Funda Wande, and the Western Cape Education Department.

While these benchmarks are valuable in their own right, their true value will be found as they are used in classrooms, homes and universities. I encourage all stakeholders to leverage this public good.

MR HM MWELI
DIRECTOR-GENERAL
DATE: 12/10/2022

ABBREVIATIONS AND ACRONYMS

CLSPM	Correct letter sounds per minute
CWPM	Correct words per minute
DBE	Department of Basic Education
EGRA	Early Grade Reading Assessment
EGRS	Early Grade Reading Study
FAL	First Additional Language
GAML	Global Alliance to Monitor Learning
HL	Home Language
LOLT	Language of Learning and Teaching
ORF	Oral Reading Fluency
PIRLS	Progress in International Reading and Literacy Study
SAL	Second Additional Language
SALDRU	Southern African Labour and Development Research Unit
UCT	University of Cape Town

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF BOXES

EXECUTIVE SUMMARY

The latest iteration of the Department of Basic Education (DBE)'s strategic plan elevates Early Grade Reading to be one of the top priorities for the sector (DBE 2020). While international testing systems have pointed to steady improvements, these gains have been off a low base with large proportions of grade 4 learners still not able to read for meaning. Within the education sector, there is recognition and prioritization of recent and ongoing innovations that have the potential to significantly improve learning in the early grades. DBE's efforts to establish grade-specific reading benchmarks for the Foundation Phase for all South African languages is one such innovation.

What are reading benchmarks?

The reading benchmarks proposed in this report aim to articulate to the sector what a successful reading trajectory looks like. Without meaningful early intervention, learners who do not acquire the foundational skills necessary for proficient reading, remain perpetually behind as their ability to process, interpret and understand grade-level texts is largely impeded. Grade-specific reading benchmarks provide the tools to measure whether learners are 'on-track' to reading for meaning by the end of the Foundation Phase. These benchmarks are intended for use by teachers, school leaders and provinces, as well as the national department, to support reading in Afrikaans across the country.

How were the benchmarks determined?

The benchmarks were developed through collaboration between education technocrats, reading experts, Afrikaans linguists and quantitative experts. Benchmarks are set through a data-driven approach that is grounded in reading development theory and guided by expert linguistic knowledge of Afrikaans and an understanding of curriculum demands and system realities. In early 2022, reading assessments were conducted with 1945 learners across 97 Afrikaans Language of Learning and Teaching (LOLT) schools in the Western Cape. The assessments were specifically designed to support the setting of reading benchmarks and consisted of both one-on-one oral assessments and group administered written assessments.

What are the reading benchmarks?

By the end of Grade 1, *all* learners should be able to correctly sound 40 letters per minute.

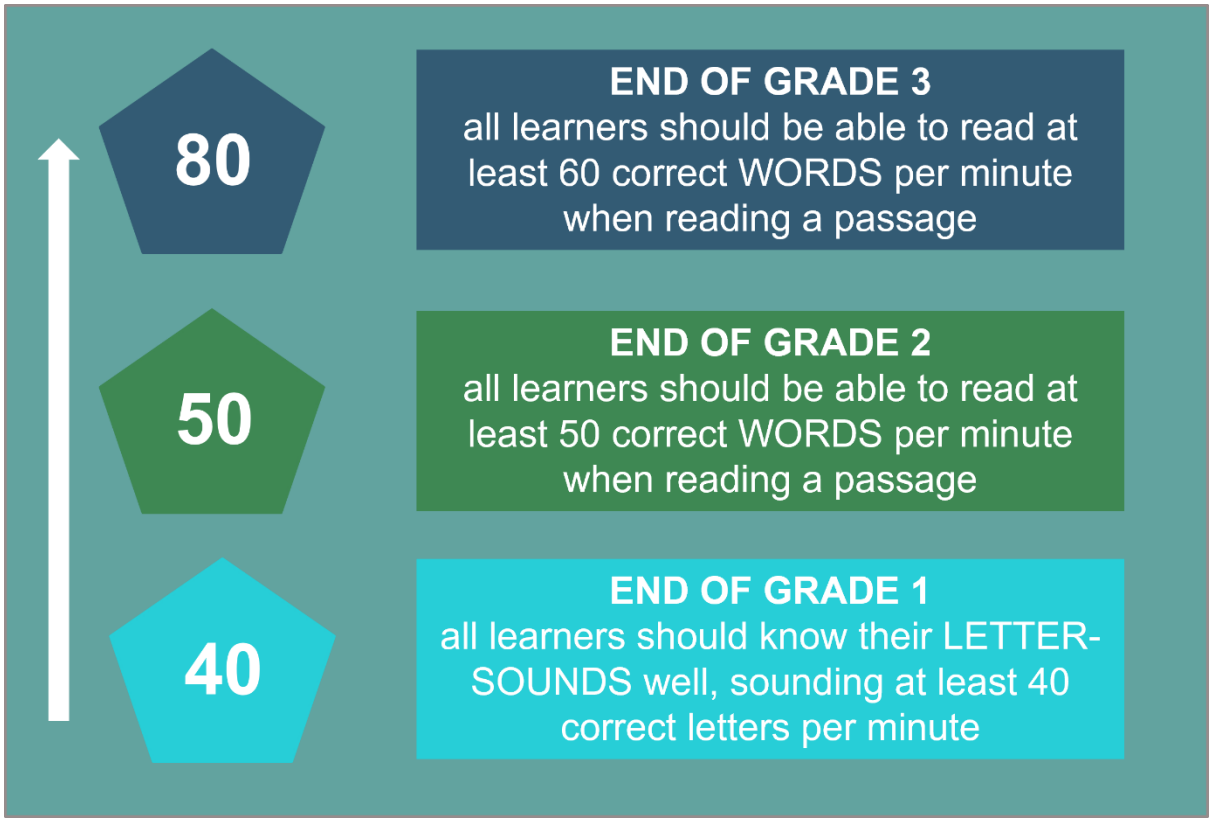
- This is the same benchmark as for the Nguni and the Sesotho-Setswana languages. While pronunciation may be different, the letters across languages are the same, supporting the use of a common benchmark.
- Once learners have achieved this level of letter-sound knowledge, phonics instruction should focus on long vowels, diphthongs and decoding instruction should focus on word reading.

By the end of Grade 2, *all* learners should be able to read at least 50 words correct a minute within a passage.

- This is an Afrikaans-specific benchmark, determined through an analysis of the relationship between accuracy and speed, and fluency and comprehension. Below this benchmark, accuracy is poor and learners struggle to comprehend what they are reading.
- Once learners have reached this fluency level, instruction should focus on developing fluency and exposing learners to a wider range of texts.

By the end of Grade 3, *all* learners should be able to read at least 80 words correct a minute within a passage.

- Learners achieving this level of fluency are increasingly able to comprehend what they are reading, scoring 70 percent on average for comprehension questions related to the passage that they have read. Attaining this level of fluency by the end of Foundation Phase is necessary for learners to succeed in the Intermediate Phase.
- Increasing fluency beyond this point is associated with diminishing improvements to comprehension, i.e. poor comprehension skills are the limiting factor to improved literacy. Once learners have reached this level, instruction should focus on building comprehension skills through continued development of vocabulary and critical engagement with text.



Reaching these benchmarks in the Foundation Phase is essential is learners are to make the transition from 'learning to read' to 'reading to learn'. These benchmarks are set high enough to be supportive of system-wide improvements, yet not so high as to be unattainable. While only 15 percent of learners in this study reached the benchmark at the end of grade 3, we know from other studies that the Covid-19 school disruptions resulted in around a year of learning loss. By the end of grade 6, 69 percent of learners had reached the grade 3 benchmark.

1 INTRODUCTION

The substantial increases in school enrolment in many low- and middle-income countries over the past few decades have not resulted in proportionate increases in learning. Global recognition of this 'learning crisis' has led to an increasing prioritization of the development and measurement of foundational skills. The World Bank has identified reading proficiency at age 10 as the key metric to monitor the 'learning crisis'. Not only is reading essential for all learning but deficits in reading are "usually a clear indication that school systems are not well organised to help children learn in other areas such as maths, science and the humanities (World Bank 2020:5)." In his 2019 State of the Nation address, South Africa president Ramaphosa stated his governments goal that "all 10-year-olds should be reading for meaning" (South African Government, 2019).

Reading proficiency at age 10, as defined by the Global Alliance to Monitor Learning (GAML), means "students independently and fluently read simple, short narrative and expository texts. They locate explicitly stated information. They interpret and give some explanations about the key ideas in these texts. They provide simple, personal opinions or judgements about the information, events and characters in a text (World Bank 2020:11)." This corresponds to the low international benchmark for the Progress in International Reading and Literacy Study (PIRLS) assessments. Despite substantial progress over the last three cycles of PIRLS, South Africa performs very poorly with only 22 percent of Grade 4 learners in 2016 meeting the GAML definition of reading proficiency. Learners who wrote the assessment in Afrikaans performed significantly better with 44 percent meet the threshold for reading proficiency. Nevertheless, this means that more than half (56 percent) of Afrikaans Grade 4 learners could not read for meaning (Howie et al. 2017). At the root of poor reading comprehension outcomes at the Grade 4 level are gaps in fundamental skills that are essential for learning to read in the Foundation Phase.

In response to these poor reading outcomes , the Department of Basic Education (DBE) has been leading efforts in the establishment of empirical benchmarks for foundational skills in South African languages in South Africa. In 2019, the DBE convened a consultative design process including South African academics and reading practitioners, funders and international benchmarking experts that culminated in the *Setting Reading Benchmarks* report (Khulisa Management Services, 2020) that identified three data approaches. First, reanalysis of existing data; second identifying and "topping up" upcoming planned data collections from other reading studies and third, collecting data specifically for benchmarking.

From the onset, there was consensus that each South African language needed to be benchmarked individually taking into account differences in phonology (system of speech sounds), orthography (writing) and morphology (words and their constituent parts) across languages. In contrast to the Southern African Bantu languages which are agglutinating with complex morphological structures, Afrikaans and English are classified as mildly inflectional languages. Afrikaans has a complex vowel system, including both short and long vowel and dipthongs, but a set of fairly simple consonant sounds. In contrast, South Africa's African languages have a simple vowel system but complex consonant sounds. Both Afrikaans and our African languages have a transparent orthography with mostly a one-to-one mapping between letters (graphemes) and sounds (phonemes). Afrikaans, Sepedi and Tshivenda are the only South African languages that make use of diacritics. Afrikaans had diacritics on different vowels. This means that there are additional symbols to learn beyond the standard letters (Khulisa Management Services, 2020).

Using large scale reading assessment data from over 30,000 learners across 5 provinces, collaborative research and funder activities have, to date, led to the establishment of benchmarks for the Nguni language

family (Ardington et al. 2020), a Setswana and English First Additional Language benchmarking report (Wills et al. 2022) and a Sepedi benchmarking report (Ardington et al. 2022).

The *Setting Reading Benchmarks in South Africa* report and engagement with the Afrikaans language board show that there is a lack of large-scale Afrikaans assessments and data collection efforts that aim to foster learning. While historical data may have been available, there is an absence of data based on the identified skills and methods adopted for benchmarking nationally and internationally.

In recognition of this, a request was made by the Department of Basic Education to extend the data collection plans of the Western Cape Education Department in collaboration with Funda Wande and the University of Cape Town to enable the creation of Afrikaans reading benchmarks. As with the other language benchmarks, these efforts are expected to strengthen reading processes in the Afrikaans language, and inform the curriculum and practices of teaching which will result in the successful development of reading benchmarks in the Afrikaans language.

1.1 AIMS

The purpose of this report is to establish grade-specific minimum Afrikaans reading benchmarks for the Foundation Phase. Following the Nguni, Setswana and Sepedi benchmarking reports (Ardington et al. 2020, Wills et al. 2022, Ardington et al. 2022), our approach is guided by a combination of insights from the data, reading development theory, expert linguistic knowledge of Afrikaans and an understanding of curriculum demands and system realities. We use newly collected data from the Funda Wande impact evaluation in the Western Cape to identify critical points along a successful trajectory to reading for meaning in Afrikaans.

1.2 REPORT STRUCTURE

We begin by motivating for the necessity of early grade reading benchmarks to guide the improvement of reading though the Foundation Phase (Section 2). The next section outlines the orthography, phonology and morphology of the Afrikaans language, highlighting features that might prove challenging for developing readers (Section 3.1). This is followed by a brief summary of the existing research into early reading in Afrikaans (Section 3.2). Thereafter we describe our empirical approach (Section 4.1) and instrument development process (Section 4.2). The data used to establish Afrikaans benchmarks are described in Section 5 and the benchmarking results are presented in Section 6 and summarised in the concluding section (Section 7).

2 WHY WE NEED EARLY GRADE READING BENCHMARKS

The South African curriculum communicates the overall skills, standards and competencies for mastery in each grade. However it does not provide adequate guidance on measuring progress within subskills in reading. Measurement of the preliminary building blocks of reading for meaning, such as letter sound recognition and developing fluency, from as early on as grade one is important if we are to avoid literacy gaps in the Intermediate Phase.

International assessments such as PIRLS are helpful in measuring the ultimate skill of reading comprehension, they do not however provide adequate information on gaps in foundational skills of those who are unable to meet the minimum standard. In the context of South Africa where the majority of learners do not reach the low international benchmark, supplementary assessments measuring earlier skills are needed. A shared understanding of what reading success looks like at each grade level can guide system-

wide improvements and prevent learners from falling behind in the developmental sequence of reading.The benchmark set in this report contribute to this shared understanding, as illustrated in Table 1.

Table 1: The uses of reading benchmarks at various levels of the education system

System levels	Clarifying goals and expectations for reading	Clarity & alignment for the effective assessment of reading	Clarifying intervention priorities
NATIONAL AND PROVINCIAL ADMINISTRATION 	Benchmarks articulate and communicate an education system's definition of reading proficiency. This promotes alignment of goals across the system with Goal 1 of the DBE Action Plan to 2030.	With a shared understanding of expectations for reading proficiency, the reading assessment process is unified across the system.	With a shared understanding of the size and extent of reading gaps across the system, this paves the way for a constructive intervention response.
SCHOOL 	Benchmarks establish standards and targets that school leaders can aim towards and are aligned with national goals for reading proficiency.	Standardises assessment practices across and within schools and ensures that school level assessment is aligned with informing tracking against national goals for reading proficiency.	Clarifies the extent of remedial support required in specific schools and required budget allocations. Focuses intervention responses on the improved teaching of reading and the provision of reading support materials.
CLASSROOM 	Benchmarks establish standards and targets that teachers and students can aim towards.	Teachers can determine how many children in their class are on track with their reading.	Target remedial programmes at learners at risk of not being able to read.
HOUSEHOLDS 	Benchmarks establish standards for parents against which to assess their children's reading proficiency.	When assessment is linked to standards, and communicated clearly in school reports, this provides meaningful information to parents on how well children read. They can engage in their child's journey to reading proficiency.	Parents and communities are empowered to identify if schools are providing necessary opportunities for their children to learn to read and to partner in remedial programmes.

Source: Ardington et al. (2020)

3 AFRIKAANS LANGUAGE

Afrikaans is one of the eleven official languages in South Africa. It is most commonly spoken in the Northern Cape and the Western Cape. It is also spoken in the central provinces lincluding the Free state, Eastern Cape and the North-West Province. Afrikaans, unlike some indigenous languages is not necessarily bound to a specific region in the country. However, it is also an important language in Namibia and is spoken in parts of Botswana, Zambia and Zimbabwe.

3.1 AFRIKAANS IN SCHOOLS

Afrikaans is one of the eleven official languages that are offered as a Medium of Instruction in primary schools. However Afrikaans and English are the only languages that are offered as the medium of instruction beyond Grade 4 through to university.

Overall, 9% of schools offer Afrikaans as the medium of instruction in Grades 1 to 3 (Gustafsson, 2020). Similarly, 9% of the population of children aged 7 to 9 years old in South Africa report speaking Afrikaans as their home language. Afrikaans is offered in all provinces except KwaZulu-Natal. Approximately 50% of all schools in the Northern Cape offer Afrikaans as a Home Language in the Foundation Phase, followed by 44% in Western Cape. Most learners that start learning in Afrikaans maintain their education in Afrikaans until grade 12 at least.

Using data from a 2004 Human Sciences Research Council survey, Gustafsson (2020) finds that Afrikaans is the third largest spoken language in South Africa with 9.4 million speakers. Out of these speakers, less than half, only 4.1 million speakers are home language speakers. Although English and Afrikaans are the dominant languages of learning and teaching in the school system as a whole, the pattern is not the same in the Foundation Phase Grades. Results from the 2007 Annual School Survey (DBE 2015) showed that 10% of Grade 1 learners learnt via the medium of Afrikaans in 2007. The proportion of Grade 1 learners learning via the medium of Afrikaans almost doubled over the period 1998-2007, from 5% in 1998 to almost 10% in 2007. This increase means that greater numbers of Grade 1 African home language learners are learning via the medium of Afrikaans as compared to English. Similarly, the use of English as a LOLT amongst Grade 2 learners, declined significantly over the period 1998 to 2007, from 35% in 1998 to 24% in 2007, while the use of Afrikaans as a LOLT increased simultaneously to the same percentage distribution as Grade 1 learners (10%).

Afrikaans is offered in three language subjects in South African schools levels, namely First Additional Language (FAL), Second Additional Language (SAL) and Home Language (HL)

3.1.1 Afrikaans First Additional Language (FAL)

Data obtained from the 2011 Annual Surveys of Schools (DBE 2011) and the 2012 Annual National Assessments (DBE 2012) providing statistics related to language subjects taken by learners in various grades showed that out of a total proportion of 665,012 learners who learn Afrikaans as a First Additional Language, 17% are in Grade 4, 16% are in Grade 3, 9% in Grade 2 and 8% are in Grade 1. This shows that several children start receiving their schooling in Afrikaans from Grade 4, these are likely to be non-home language speakers.

3.1.2 Afrikaans Home Language (HL)

Data from the Annual National Assessments showed that out of a total proportion of 630,464 primary school learners who use Afrikaans as a home language, the majority are in Grade 1 (16.0%). No percentage

differences were observed in the proportion of Grade 4 learners and Grade 2 learners who use Afrikaans as a Home Language (14.0% each respectively).

3.1.3 Afrikaans Second Additional Language

The 2012 ANA assessments further showed that 25% of Grade 4 learners and 4% of Grade 3 learners use Afrikaans as a Second Additional Language.

Afrikaans single medium schools in South Africa are regarded as schools that offer only Afrikaans as their LOLT in every grade and class. According to the 2007 Annual School Survey, there were close to 6 000 single medium schools in the country. The majority of these were English medium schools by far, followed by Afrikaans medium schools. The number of Afrikaans single medium schools has declined somewhat from 1 227 in 1998 to 1 174 in 2007. In addition, close to 5% of the schools in the country were Afrikaans single medium schools (DBE 2010). This may have declined more recently.

3.2 LINGUISTIC AND ORTHOGRAPHIC FEATURES OF AFRIKAANS

The origin of Afrikaans is rooted in a primitive language known as Indo-European. Dutch and Afrikaans share this origin. The Indo-European language can be split into three language families namely, East Germanic, North Germanic and West Germanic. The East Germanic language family relates to the Goths and their extinct language. The North Germanic language family is used by the Swiss, Norwegians, Danish and Icelandic. The Western Germanic language family consists of Dutch, German, English and Frisian. Afrikaans originated from Dutch.

Furthermore, the development of Afrikaans was influenced by Khoi language structures, Malay, Creole-Portuguese, as well as Indian, Arabic, European and other African languages. At face value, this may not relate directly to early grade reading. However, this background is important to acknowledge the special varieties of Afrikaans.

Table 2: Short vowels in Afrikaans

Short vowels in Afrikaans (Afrikaans term is vokaal/klinker, enkelklank of kortvokaal)	**English**			
		Afrikaans	**English**	**Sounds like**
a	as in	man kas	man cupboard	a sounds like u in cup
e	as in	nek pen	neck pen	e sounds like e in pen
o	as in	kop grot	head cave	o sounds like o in cork
u	as in	lug brug vrug	air bridge fruit	u sounds like the u in
i	as in	dit vis vinnig	this fish fast	I sounds like the i in fish

Note: adapted from Lutrin, B. 2020 and Barnby, A. & McLachlan, T. 2012

Afrikaans is a phonetic language. By implication, as you sound it, so you spell it and read it, so there is a correlation between the written and spoken language. Afrikaans has a systematic phonological and orthographic structure (Cockcroft et al., 2001). It has a comprehensive vowel system which includes short vowels, long vowels, double vowels and triple vowels. In Afrikaans, the vowels are a, e, i, o, u. The short vowels are shown in Table 2.

The long vowels, shown in Table 3 have two vowel letters because they appear in a closed syllable. If a long vowel appears in an open syllable, the word is written with one vowel letter.

Table 3: Long vowels in Afrikaans

Long vowels in Afrikaans (Afrikaans term is dubbelklank)	**English**			
		Afrikaans	**English**	**Sounds like**
aa	as in	maan kaas plaas → plase	moon cheese farm → farms	aa sounds like ah!
ee	as in	peer skeef been → bene	pear skew leg → legs	ee sounds like ear
oo	as in	koop groot boom → bome	buy big tree → trees	oo sounds like o in poor
uu	as in	duur vuur muur → mure	duration fire wall → walls	uu sounds like the "ie" in grieve

Note: adapted from Lutrin, B. 2020 and Barnby, A. & McLachlan, T. 2012

Apart from the short vowels, long vowels, Afrikaans also has diphthongs (double vowels and triple vowels). Table 4 highlights the diphthongs.

Table 4: Diphthongs in Afrikaans

Diphthongs–- double and triple vowels in Afrikaans (Afrikaans term is diphthong or Tweeklanke)	**English**			
		Afrikaans	**English**	**Sounds like**
aai	as in	slaai draai	salad turn/corner	aai sounds like the y in why
ai	as in	aitsa	great/fabulous	ai sounds like i in like
eeu	as in	leeu sneeu	lion snow	eeu sounds like ew in dew
ei	as in	vleis klein	meat small	ei sounds like ai in pain

ou	as in	koud vrou	cold woman/female/lady	ou sounds like oa in goat
oi	as in	oink toiing	oink tatty piece of yarn	oi sounds like oy in boy
ooi	as in	mooi rooi	beautiful/lovely red	ooi sounds like oy in toy
ui	as in	huis tuin	house garden	ui sounds like ai in pain
y	as in	sy prys	she/her price	y sounds like the ay in hay
ae	as in	hael vrae	hail questions	ae sounds like ah/a
eu	as in	neus seun	nose boy/son	eu sounds like I in Ian
oe	as in	boek broek	book a pair of pants/trousers	oe sounds like the "oo" in book
ie	as in	siek pienk	sick pink	ie sounds like i in sick
oei	as in	koei groei	cow grow	oei sounds like

Note: adapted from Lutrin, B. 2020 and Barnby, A. & McLachlan, T. 2012

Consonants are all the letters of the alphabet apart from the vowel letters. The following letters are consonants: b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, z. Table 5 indicates how these letters form speech sounds.

While consonants are not taught in a blended manner, their combination in specific words produces unique sounds worth noting for learners. These include the combination of c and h, d and j, g and h, s and j, t and j. The table provides examples of words that use these combinations and the unique sounds they make compared to ordinary consonants.

Table 5: Consonants as speech sounds in Afrikaans

Consonants in Afrikaans (Afrikaans term is konsonante)	**English**			
		Afrikaans	**English**	**Sounds like**
b	as in	bed baba	bed baby	b sounds like b in baby
c	as in	calamari	the letter c is only used in borrowed words. It is combined with h to form the ch-sound and is pronounced like the consonant g in gaan.	
ch	as in	chemie chaos	chemistry chaos	ch sounds like g in gaan
d	as in	daar donkie	there donkey	d sounds like d in dad

		If a d is a final consonant in words such as bad, it is pronounced as t like in kat		
dj	as in	baadjie bordjie	Jacket/blazer Small plate	dj sounds like k in hanky
f	as in	fiets familie	bike/bicycle family	f sounds like the f in fit
g	as in	gat veg	hole fight	g sounds like ch in loch
gh	as in	gholf garage	golf garage	g sounds like g in get
h	as in	hy hoes	he/him cough	h sounds like h in have
j	as in	jas jonk	coat young	j sounds like y in young
k	as in	kas koei	cupboard cow	k sounds like c in cow
l	as in	lê lag	lie laugh	l sounds like l in laugh
m	as in	Ma my	Mother mine	M sounds like m in mom
n	as in	nee Naam	No name	N sounds like n in no
ng	as in	Bang vang	Scared To catch	Ng sounds like ng in lung
p	as in	Pa pas	Father/dad fit	P sounds like p in paper
r	as in	reg rooi	right red	r sounds like r in red
s	as in	see res	sea remainder	s sounds like s in hiss
sj	as in	sjef sjerrie	chef cherry	sj sounds like sh in shop
t	as in	toon tafel	toe table	t sounds like t in test
tj	as in	tjek tjello	cheque chello	tj sounds like ch in child
v	as in	vet vra	fat ask	v sounds like the f in foot
w	as in	waar weet	where know	w sounds like v in very
w	as in	twintig	twenty	w sounds like the wh in what
z	as in	zulu	zulu	z sounds like the z in zulu

Note: adapted from Lutrin, B. 2020 and Barnby, A. & McLachlan, T. 2012

The linguistic and orthographic features of Afrikaans are rather complex. However, the curriculum is prescriptive about the teaching of sounds in Afrikaans and divides the sounds into sound groups based on their level of difficulty.

Table 6: Grade 1 progression of Afrikaans sounds

Sound	a	e	i	o	u	y
Example of words	das	bek	vis	bos	lus	hy
Sound	aa	ee		oo	uu	
Example of words	kaas	beet		boom	uur	
Sound	ie	ou	eu	ei	oe	ui
Example of words	sien	koud	deur	sein	boek	huis
Sound	Plural (meervoude) (-s, -e)					
Example of words	vensters	pote				

Source: Joubert, 2015

In grade 2 the diphthongs are taught and a focus is placed on beginning sounds.

Table 7: Grade 2 progression of Afrikaans sound

Sound	ei	aai	ooi	oei	eeu		
Example of words	sein	raai	mooi	koei	leeu		
Sound	br	dr	gr	kr	tr	vr	
Example of words	broer	draak	groen	krap	trap	vra	
Sound	bl	gl	kl	sl			
Example of words	blom	gly	klap	slak			
Sound	sk	sl	sm	sn	sp	st	sw
Example of words	skop	slaap	smaak	sny	spat	stap	swem
Sound	ge	be	ver	pl	vl	kl	fl
Example of words	gesig	begin	vergeet	plan	vlag	klas	fles
Sound	pr	vr	kr	tr	dr	fr	tw
Example of words	pret	vrag	krap	trap	druk	fris	twee
Sound	sw	kw					
Example of words	swart	kwaad					

Source: Joubert, 2015

3.3 REVIEW OF STUDIES OF EARLY READING DEVELOPMENT IN AFRIKAANS

Research studies focused on early reading development in Afrikaans are limited. In 2015, Marthinussen and van der Merwe reported on an adjusted programme to improve phonological and phonemic awareness in early reading of Afrikaans Grade 1 learners in a poor-language environment. In 2016, Brand investigated several salient aspects of language awareness and literacy in a largely monolingual Afrikaans community. In 2018 Basson and Le Cordeur presented possible solutions to reading comprehension problems of non-mother-tongue speakers in Afrikaans Home Language classes.

These studies focus on literacy and the components of early reading skills as described in the curriculum as well as the strategies to develop these components. Phonological processing, decoding, language proficiency and orthographic depth are the foundation of early grade reading. Two such studies are discussed here.

In 2001, Cockroft et al. (2001) explored whether phonological awareness is a precursor to learning to read in Afrikaans or a consequence of literacy. A cross-sectional design was implemented to trace the development of phonological awareness of Afrikaans-speaking learners in Grades 0I), 1, and 2. The results indicate that for learners learning to read in Afrikaans, certain aspects of phonological awareness such as onset and rime detection and syllable manipulation are acquired before they can read. Furthermore, the learner's ability to manipulate phonemes was related to the process of learning to read.

In a study by Malda et al. (2014), the researchers were interested in comparing similarities/differences across opaque (English) and transparent orthographies (Afrikaans and Setswana). The reading abilities of 358 Grade 3 learners were profiled in English, Afrikaans and Setswana, using a battery of tests that tap into different linguistic, cognitive and code-based components of reading to identify strengths and weaknesses in reading development. Only the Afrikaans results are discussed here (n=122 learners).

The overall findings indicated that the pathways between cognitive and reading skills were similar across the three orthographies, which suggests that the "main road to reading" is the same for children learning to read in alphabetic languages, irrespective of orthography. However, in line with theories about orthographic depth, differential effects were found in terms of the strength of the association between the sets of skills.

Overall, the scores on the various reading measures were highest in the Afrikaans group. For example, the mean for reading comprehension was high (17.6 compared to 12.7 for English and 7,7 for Setswana), while the mean ORF score was 65.7 cwpm. Although not tested directly in the study, the findings suggest support for the simple view of reading (SVR), which predicts that reading comprehension is compromised if decoding skills are not well developed. For the foundational decoding skills such as phoneme blending, phoneme segmentation and phoneme deletion the Afrikaans learners fared well in comparison to the Setswana and English learners.

In 2021, Scheepers et al. (2021) conducted a study with 35 learners in five private schools with Afrikaans as the language of learning and teaching (LoLT) in Grade 2. This study investigated and described the role of working memory in the acquisition of phonological awareness and reading in Afrikaans. However, the sample focused on in this study was situated within private schools.

4 BENCHMARKING METHODOLOGY

4.1 METHODOLOGICAL APPROACH

Our approach to establishing early grade reading benchmarks in Afrikaans follows the same process as that for the Nguni languages (Ardington et al. 2020, Ardington et al. 2021), Setswana (Wills et al. 2022) and Sepedi (Ardington et al. 2022). We follow a data-driven approach that is grounded in reading development theory and guided by expert linguistic knowledge of Afrikaans and an understanding of curriculum demands and system realities. Ardington et al. (2020) and Wills et al. (2022) provide a detailed exposition of the theory of reading development informing our empirical analyses. Here we briefly summarize the main points that motivate our approach and then set out our empirical strategy.

4.1.1 Conceptual underpinnings

While the ultimate goal of reading is to construct meaning from the text, reading comprehension is a complex phenomenon requiring the development and coordination of multiple foundational skills and processes. Within each process decoding accuracy tends to develop first, followed by increased speed as decoding becomes more automatic, rapid and effortless. This in turn frees up working memory and attention for meaning construction.

Oral reading fluency (ORF) is the ability to read with accuracy, speed and proper expression (prosody) and is necessary (albeit not sufficient) for learners to fully comprehend what they are reading. While fluency builds a bridge between decoding and reading comprehension (Chard, Pikulski and McDonagh, 2006), there may be non-linearities in the relationship between fluency and comprehension. The decoding threshold hypothesis put forward by Wang et al. (2019) suggests that reading comprehension is unlikely to develop until decoding exceeds a lower bound threshold level. They also suggest that there may be an upper threshold, beyond which there are no additional gains (in comprehension) for increasing decoding skills.

Language differences have a critical impact on the development of these processes. For example, accuracy tends to develop more rapidly in languages with transparent orthography (e.g. Afrikaans, Sesotho-Setswana and Nguni languages) than in those with opaque orthography (e.g. English).

This understanding of reading development informs our approach to benchmarking in several ways. First, ORF is an important skill in its own right and a reasonable proxy for comprehension. Reading comprehension is not a simple construct and is challenging to assess in an equivalent or reliable manner while ORF is easily understood and measured making it an appropriate skill for benchmarking. In this report, we use the term fluency to describe the combination of speed (number of words attempted in a time period) and accuracy (percentage of attempted words read correctly) as the assessment of prosody is subjective and difficult to measure in field studies.

Second, following Wang et al. (2019), our exploratory data analysis aims to identify critical decoding thresholds in learners' reading development. We specifically look for fluency points below which comprehension is unlikely to develop and whether there is evidence of an upper threshold where limited comprehension skills become a constraint and there are no further gains to increasing fluency.

Third, we explicitly acknowledge the importance of accuracy by focussing on the relationship between accuracy and speed before turning our attention to the comprehension-fluency relationship.

Fourth, differences between languages necessitate language-specific benchmarks. While there is considerably more research on Afrikaans than on other African languages, the volume of such research pales in comparison to that on early reading acquisition in English. We are careful not to impose any a

priori assumptions on the accuracy-speed and fluency-comprehension relationships. Our empirical approach relies heavily on exploratory data analysis to uncover these relationships for Afrikaans early grade readers. In this sense, our approach is data driven. That said, benchmarks need to be contextually appropriate and cognisant of curriculum requirements. Setting benchmarks at a level that is out of reach for most learners limits their usefulness in tracking incremental improvements or guiding remediation or instruction. On the other hand, benchmarks need to be set high enough to encourage system improvements toward levels that are appropriate for the demands of the curriculum. To this end, we examine the attainability of proposed benchmarks and engage in expert opinion on the appropriate grade level at which to set each benchmark.

Fifth, reading is hierarchical with the development of lower-level skills necessary for the development and application of higher-order skills. This supports establishing benchmarks for lower-order skills to ensure that learners are on a successful trajectory for learning to read for meaning. Letter-sound knowledge fluency has been shown to be predictive of later oral reading fluency. Benchmarking this foundational skill provides a means of identifying at-risk learners early on at the lower end of the hierarchy.

4.1.2 Empirical approach

The aim of this report is to establish appropriate letter-sound knowledge and oral reading fluency benchmarks to map out a successful reading trajectory through the Foundation Phase. The focus of the empirical work is to identify the level where decoding skills are sufficiently established to support reading comprehension (upper threshold) and to investigate whether there are critical points in learners' decoding development below which comprehension stagnates (lower threshold). To avoid imposing *a priori* assumptions about reading development in Sepedi, we use non-parametric techniques to explore the accuracy-speed and fluency-comprehension relationships.

Once these thresholds are identified, we use concurrent data on related reading skills to establish whether these potential benchmarks align with meaningful distinctions between learners and the stages of reading development. We also investigate whether the potential benchmarks are contextually appropriate by examining the proportion of current learners reading at these levels. The benchmarks need to be ambitious enough to support improvements in reading proficiency while at the same time being set at a level such that they can be used to measure incremental progress and inform instructional focus in the classroom. Our process of setting benchmarks involves both backwards and forwards analyses of the data.

4.1.2.1 Establishing ORF benchmarks

4.1.2.1.1 Examining the relationship between speed and accuracy

Betts (1946) classified learners as reading at the independent, instructional or frustration level based on a combination of their word reading accuracy and comprehension. In terms of accuracy, learners reading at the independent level read with at least 99 percent accuracy, those at the instructional level read with at least 95 percent accuracy and readers at the frustration level are reading with less than 90 percent accuracy. A review of recent evidence supports the continued use of these levels (Allington et al. 2015). The levels developed by Betts should be easily attainable for Afrikaans readers as accuracy tends to develop more readily in transparent languages than in English which has an opaque orthography.

Using locally weighted polynomial regressions, we investigate the relationship between speed and accuracy paying particular attention to the speed associated with the instructional level of accuracy identified by Betts. Below those speeds, decoding is likely to be laboured hindering the ability of the learner to make meaning from the text. This point is the lower threshold.

4.1.2.1.2 Examining the relationship between fluency and comprehension

We then use the same non-parametric approach to explore the relationship between fluency (a measure of both speed and accuracy) and comprehension. We consider whether learners struggle to comprehend what they read when their fluency levels are below the lower threshold suggested by the accuracy-speed relationship. We also seek to establish the fluency level necessary to support comprehension, paying particular attention to whether there is evidence of an upper threshold below which there are limited improvements in comprehension with increased fluency.

4.1.2.1.3 Concurrent validity and contextual alignment

Next we establish the concurrent validity of the fluency thresholds by examining how they align against the performance of the same learners on written comprehension assessments. We also investigate whether they distinguish learners into meaningful reading profiles. Finally, we assess whether these thresholds are contextually appropriate by investigating their achievability at various grade levels.

Box 1: Exploratory non-parametric methods versus traditional benchmarking approaches from Ardington et al. (2022)

Exploratory non-parametric methods versus traditional benchmarking approaches

Typical approaches to benchmarking focus on identifying the fluency levels associated with achieving a fixed comprehension threshold, for example at least 80 percent of questions correct (Room to Read, 2018; Abadzi, 2012). Our approach has a number of advantages over the traditional approach.

First, reading benchmarks are language and context specific and need to be set in way that is responsive to patterns emerging from the data. Non-parametric methods make no assumptions about the speed-accuracy or fluency-comprehension relationships which can be affected by both pedagogical and linguistic differences.

Second, our approach to identifying critical thresholds in the accuracy-speed and fluency-comprehension examines the full distribution of these relationships whereas traditional methods only focus on these relationships around the specific comprehension cut-off.

Third, traditional methods assume that comprehension is an easily defined and comparable construct across passages and languages. There is plenty of evidence to the contrary and in this and other reports (Ardington et al. 2020, Wills et al. 2022) we highlight the serious challenges of establishing the appropriate level of comprehension questions. Our approach is much less sensitive to these challenges than traditional approaches that focus on a particular comprehension cut off.

A disadvantage of our approach is that it requires some degree of expert subjective judgement. However, a prescriptive, formulaic approach to benchmarking runs the risk of setting benchmarks that are neither contextually appropriate nor informative for tracking incremental improvements or guiding remediation or instruction. For example, RTI International (2017) report that across African countries only around 5 percent of learners were reaching the established benchmarks. We instead are guided by both the patterns that emerge from the data and the current realities of South African classrooms. This developmental approach enables the measurement of incremental improvements over time in a low-literacy context.

4.1.2.2 Establishing letter-sound benchmarks

Using longitudinal data and drawing on expert opinion, the Nguni benchmarking report identified 40 correct letter-sounds per minute as an appropriate minimum benchmark for the end of grade 1 (Ardington et al. 2020). Reaching this level was predictive of reaching later oral reading fluency benchmarks and data indicated that there were diminishing improvements in letter-sound knowledge once learners had reached

40 correct letter-sounds per minute. Despite differences in pronunciation, one wouldn't expect significant differences in the process of letter-sound acquisition across alphabetic languages. The Setswana benchmarking report determined that this benchmark was appropriate in terms of reachability and predictive validity (Wills et al. 2022). Afrikaans longitudinal data have not yet been collected, and we, therefore, focus on the extent to which the benchmark of 40 correct letter-sounds per minute is contextually appropriate.

4.2 INSTRUMENT DEVELOPMENT

The development of the reading assessment instruments was led by Zelda Barends at the University of Stellenbosch. The process began with sourcing appropriate assessment tasks, word lists and texts. Tables 8 and 9 detail the sources used in designing the tasks to assess each skill for Grades 4 and 7 respectively. The assessments were piloted in two schools and subsequently refined.

Table 8: Afrikaans Grade 4 reading assessment sources by skill/task

Skill/Task	Source
Phonemic awareness	Real words were taken from and **DBE grade 3 big book (books 6 and 8).** Familiar words were used to not add additional complexity to the task. The task included phoneme and syllable subtasks. The inclusion of identification, deletion, substitution and segmenting tasks adds layers of complexity to the task.
Rapid Object Naming	The same objects were used across the **DBE RAN** tasks. Objects were recognisable to Afrikaans learners.
Letter-sound Knowledge	Taken from **DBE Grondslagfase Leesassessering (EGRA) Toolkit 2017** (Assessment 3 used which aligns with endline assessments for grade 3 according to the toolkit). This was appropriate as Grade 4 learners were assessed at the start of Grade 4 which means that they should be at a Grade 3 endline assessment level. The assessment includedIncludes simple consonants and short vowels both in lower and upper case.
Word Reading	Adapted from **DBE Grondslagfase Leesassessering (EGRA) Toolkit 2017** (Assessment 3 used which aligns with endline assessments for grade 3 according to toolkit). This was appropriate as learners were assessed at the start of Grade 4 which means that they should be at a Grade 3 endline assessment level. The original list only had monosyllabic words which seemed too simplistic – the list was adapted to include a variety of word lengths (in syllables). Mainly mono and bisyllabic words with 5 trisyllabic words were included for increased complexity in word length. The original EGRA list included mainly simple words with simple sounds – more complex words and sounds included e.g. str in spruit and tjie in meeutjie as well as long vowels were included. In addition more grammatically complex words e.g. plurals and diminutives were also included New words were taken from **Geletterdheid in die Grondslagfase (pg. 262-265 and 248-249)** *and* **DBE grade 3 big book (book 8)** as well as the **DBE HL_G03_ReaderLevel 3Book3Stra16erbut trueAfrikaans.**

Oral Reading Fluency + Comprehension Questions	Text 1: Nelson Mandela Source: **WKOD Begripslees 2.1 Nelson Mandela** pg. 3 of 106 Text 2: Pret op die strand Source: **WKOD Begripslees 6.1 Pret op die strand** pg.18 of 106
Written Comprehension	Text 1: Die Reënboogvis Source: **DBE Gr 3 Baseline Assessment 2021** pg.16-20. The original text was adapted, the original text seems to have been translated. Text 2: Warm roosterbrood Source: **DBE Big Books** (Big book 1) The original text was adapted, numerous spelling and grammatical errors were noted in the original text Text 3: Behoud van voedsel Source: **WCED ePortal Interaktiewe lesplanplakkaat Gr 3 K4 W1** The original text was adapted, numerous spelling and grammatical errors were noted in the original text

Table 9: Afrikaans Grade 7 reading assessment sources by skill/ task

Skill/Task	Source
Oral Reading Fluency + Comprehension Questions	Text 1: Paul die plaasmuis en Stefan die stadsmuis Source: **WKOD Begripslees 27.1 Leesstuk 27 pg.88 of 106** Text 2: Taxibestuurder doen goeie daad Source: **Afrikaans sonder grense EAT Graad 6**
Written Comprehension	Text: Vullisverwydering Source: **Adapted from Lawrence, D., Le Cordeur, M., van der Merwe, L., van der Vyfer, C. & van Oort, R. (2014)** *Afrikaansmetodiek deur n nuwe bril.* Oxford University Press. pg.406. Text: Honde Source: **DBE workbooks Grade 6 FAL Book** 2 pg. 22-23 Teks: Rotte, goed en sleg Source: WCED ePortal Obtained text from website, adapted slightly
Written vocabulary task	Task developed drawing on sentences from the following **DBE workbook: Afrikaans Home Language Grade 6 – book 2 Terms 3 & 4**

5 AFRIKAANS DATA

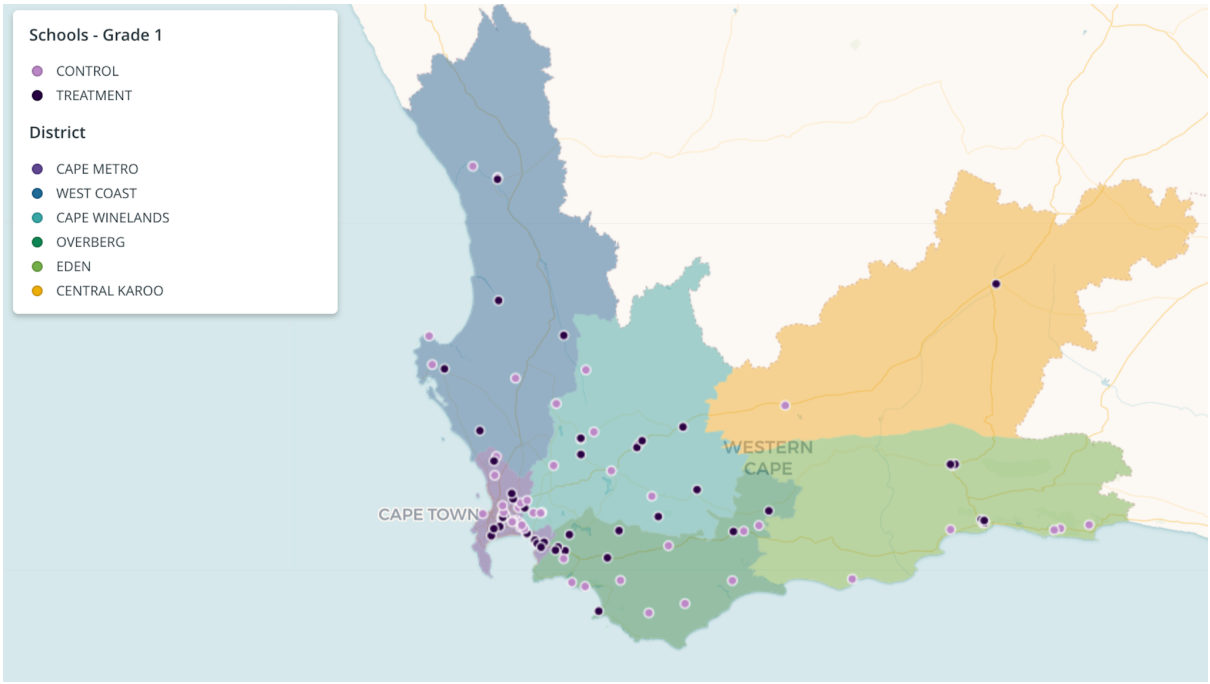
5.1 BACKGROUND

The baseline data collection for the external impact evaluation of the Funda Wande programme in the Western Cape was planned for the first term of 2022. The fieldwork teams would be visiting 100 Afrikaans LOLT schools across the province to assess grade 1 learners. In collaboration with DBE, Funda Wande committed additional resources to enable the extension of the data collection to include reading assessments with grade 4 and 7 learners in the same schools for benchmarking purposes. These grades were selected as they would provide an indication of learner reading proficiency at the end of the Foundation Phase and the Intermediate Phase (i.e. the end of grade 3 and 6).

5.2 SAMPLE CHARACTERISTICS

The Funda Wande evaluation includes 50 schools that receive Funda Wande materials and support and 50 comparison schools. The 50 schools selected to receive the Funda Wande program were chosen by the Western Cape Education Department (WCED). The evaluation team then used matching techniques to create an appropriate group of comparison schools. The comparison schools were matched on available administrative data including previous results on the Western Cape annual systemic tests. The baseline report for the Western Cape evaluation provides further details about school selection (Ardington and Henry 2022). The location of all 100 schools is shown in Figure 1.

Figure 1: Geographical distribution of treatment and control schools across districts



Three of the 100 schools only went up to Foundation Phase and one additional school did not have grade 7 learners. The final sample for benchmarking is therefore 97 schools at the grade 4 level and 96 schools at the grade 7 level. We include both intervention and comparison schools as the data were collected prior to

the start of the programme, which in any case only targeted grade 1 learners. The sample was not designed to be representative of all Afrikaans home language learners, or even Afrikaans learners in the Western Cape. However, the sample includes schools from across the DBE quintiles in urban and rural locations and should provide an informative picture of early grade reading skills in Afrikaans schools (Table 10). Almost all schools have electricity, water and flush toilets. However, slightly less than half (47 percent) of schools had a ratio of learners to toilets below the 30 recommended by the World Health Organisation (Adams et al., 2009). Sixty percent of schools have a library (mobile or on-site).

Table 10: School characteristics

	Average
Urban	81%
School quintile:	
1	18%
2	12%
3	25%
4	23%
5	23%
Intervention school (Grade 1 intervention)	49%
Number of learners in grade R to 7	735
Working electricity	99%
Working water	97%
Flush toilets for learners	99%
Ratio of learners to toilets:	
<31	47%
31-60	38%
>60	14%
Library	60%
Observations	97

Notes: One school did not have grade 7 learners.

In line with earlier research on school quintiles in the Western Cape (Zoch 2017), data collected on school fees through interviews with school principals do not align perfectly with the administrative data on whether a school is fee-paying[1]. Table 11 summarises the breakdown of fees charged by quintile. Three quintile 1 to 3 schools charge a small fee of up to R250 per annum. Only three of the schools classified as quintile 4 charge fees and these fees are less than R500 per annum. Two of the quintile 5 schools do not charge fees, five schools charge less than R1000 per annum and the remaining 15 have fees ranging between R1030 and R32000.

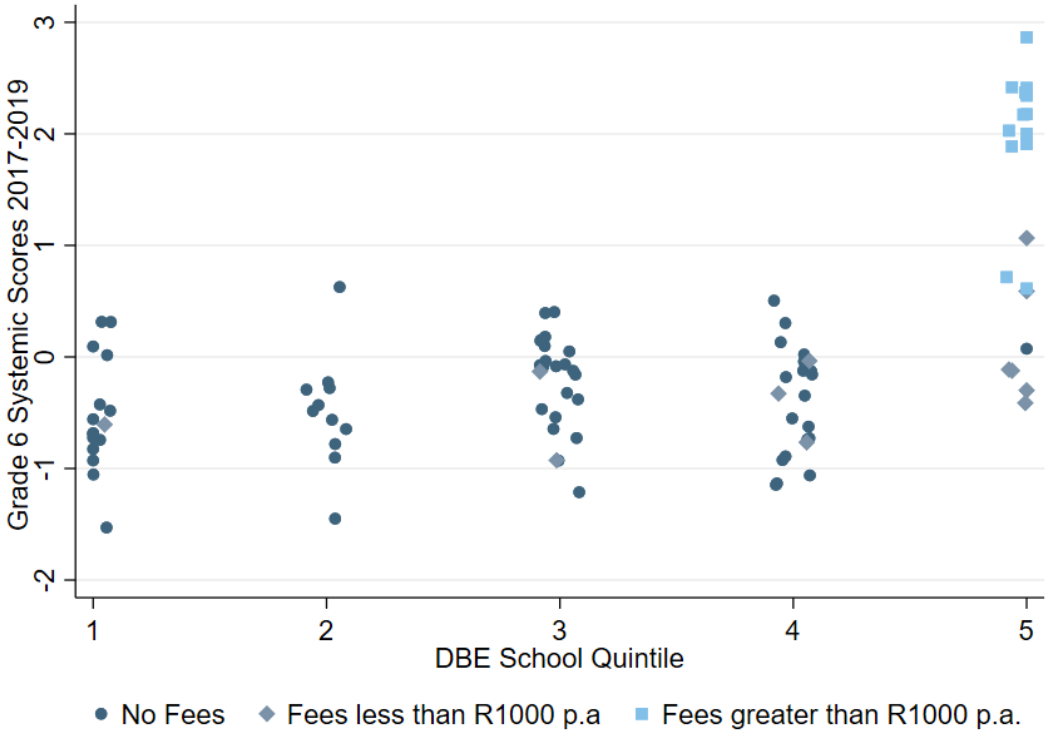
Table 11: Fees charged and school quintiles

	No-fee	Fees up to R1000	Fees >R1000	Total
Quintile 1	15	1		16
Quintile 2	12			12
Quintile 3	22	2		24
Quintile 4	19	3		22
Quintile 5	2	5	15	22

[1] School in quintiles 1 to 3 should not charge fees.

The alignment between fees charged and school performance is evident in Figure 2 which plots the Western Cape Grade 6 systemic scores by quintile with the colour of the points indicating whether a school is no-fee, low-fee (<R1000) or relatively higher fee (R1000). There is a distinct group of quintile 5 schools that are charging fees in excess of R1000 and have better systemic scores. In terms of fees and prior performance, quintile four schools are not distinguishable from schools in the lower three quintiles.

Figure 2: Grade 6 systemic performance by school quintile and school fees



Detailed exploration of the data revealed two distinct groups of schools (see Ardington and Henry 2022). The smaller group of 14 schools are all quintile 5 and have relatively higher fees (>R1000 per annum). Throughout this report, we use this classification instead of school quintiles and refer to the two groups as "Fees greater than R1000 p.a." and its counter as "Fees less than R1000 p.a.". There are clear differences in the characteristics across the two groups (Table 12). Only 58 percent of schools with fees lower than R1000 have a school library, in contrast to 71% of schools with higher fees. Over half (57 percent) of low- or no- fee schools do not meet the WHO recommendation for the ratio of learners to toilets compared to only 21 percent of the higher fee schools.

Table 13 presents learner characteristics by grade. The gender split of the samples is approximately equal and grade 7 learners are, on average, three years older than grade 4 learners. Just over one in ten learners in each grade is repeating the year. Between 91 and 93 percent of the learners in grade 4 and 7 respectively report Afrikaans as the language most commonly spoken at home.

Table 12: School characteristics by fee group

Total	Fees <R1000	Fees >R1000
% of schools with no fees	86%	0
Average school fees per annum (ZAR)	64	13610
Library	58%	71%
Toilet to learner ratio:<=30	42%	79%
Toilet to learner ratio:>30-60	43%	7%
Toilet to learner ratio: >60	14%	14%
Observations	83	14

Table 13: Learner characteristics

Learner characteristics	Grade 4	Grade 7
Female	50%	52%
Age in years	9.6	12.6
Repeating grade	13%	12%
Speaks Afrikaans at home	91%	93%
Total number of observations	973	972

Table 14 focuses on the grade 4 learners and disaggregates characteristics by fee group. Socio-economic differences between the two groups are very apparent. Learners in no- or low- fee schools are three percentage points more likely to be repeating a grade and are four months older, on average. There is no difference in the percentage of learners speaking Afrikaans at home across fee groups. Almost all (98 percent) learners in schools with fees in excess of R1000 live with their mother and the vast majority (84 percent) live with their father. In contrast, only 82 and 60 percent of learners in schools with fees below R1000 co-reside with their mother and father respectively. Learners in no- and low- fee schools are substantially more like to have no books other than schoolbooks to read at home than learners in schools with fees above R1000 (58 versus 14 percent). Looking across a range of household infrastructure and possession, there are clear distinctions between the two groups. For example, 86 percent of learners in higher fee schools have a computer at home versus only 27 percent of learners in no- and low- fee schools.

Table 14: Grade 4 learner characteristics by fee group

Learner characteristics	Fees <R1000	Fees >R1000
Female	50%	50%
Age	9.7	9.3
Repeating grade	13%	10%
Mostly speaks Afrikaans at home	91%	91%
Mostly speaks Afrikaans with friends	96%	94%
Wears spectacles	2%	9%
Lives with mother	82%	98%
Lives with father	60%	84%
No books at home	58%	14%
Few books at home	25%	17%
Some books at home	9%	24%
Many books at home	2%	16%
Lots of books at home	5%	30%
Is there a radio at your home?	49%	54%
Is there a television at your home?	93%	98%
Is there a computer at your home?	27%	86%
Is there a refrigerator at your home?	92%	100%
Does anyone at your home have a bicycle?	55%	86%
Does anyone at your home have a car, or a truck?	49%	96%
Is there a washing machine at your home?	88%	97%
Is there a microwave at your home?	81%	99%
Do you have electricity at your home?	96%	100%
Is there running water inside your home?	90%	97%
Is there hot running water inside your home?	62%	97%
Is there a toilet inside your home?	89%	100%
Observations (N)	824	149

5.3 ASSESSMENTS

The assessments used for the benchmarksing process are an adaptation based on the Early Grade Reading Assessment (EGRA) tool. The assessments were designed to assess a range of foundational reading skills in an easy to administer and reliable manner. The subskills assessed for benchmarkarking areletter-sound knowledge, oral reading fluency and oral reading comprehension. In addition, we examine the concurrent validity of the established benchmarks using the performance on written comprehension tasks and assess other early skills such as phonemic awareness, word reading and vocabulary.

Table 15: Oral reading fluency and written comprehension passages

Grade	Oral reading fluency					Written comprehension			
	#	Passage description	Max possible words	N compre-hension questions	Time allowed	#	Passage description	N compre-hension questions	Time allowed
4	1	Pret op die Strand (narrative)	114	10	3 mins	1	Die Reënboogvis – Anoniem (narrative)	11	
	2	Nelson Mandela (informational)	176	7	3 mins	2	Warm Roosterbrood (narrative)	7	
7	1	Paul and Stefan (narrative)	252	7	3 mins	1	Honde (narrative)	7	15 mins
	2	Die Taxibestuurder (informational)	226	9	3 mins	2	Die Bestuurder: Vullisverwydering (informational)	6	15 mins
						3	Rotte, goed en sleg (informational)	9	15 mins

The various oral reading fluency passages together with text length and the number of related comprehension questions are summarized in Table 15. At both grade levels, learners were assessed on both a narrative text and informational text. All oral assessments were administered individually in a one-to-one assessment, with three minutes given for completion of reading the passage followed by an untimed opportunity to respond to the related comprehension questions. Grade 4 learners completed two narrative written comprehensions. At the grade 7 level, learners were assessed on one narrative and two informational written comprehensions.

5.4 READING NORMS

The average performance of learners across all the reading skills is presented in Table 16. For each grade, we show both the average, and the percentage of learners scoring zero. The average grade 4 learner is able to sound 58 letters in a minute and is reading connected text at a fluency of 41 and 42 correct words per minute across the two passages. Grade 4 learners perform poorly on the comprehension questions that follow the passage scoring 34 and 38 percent on average. Performance on the written comprehension is particularly poor with 50 and 42 percent of grade 4 learners scoring zero on the first and second text respectively. At grade 7, oral reading fluency has increased to an average of 94 correct words per minute for the narrative text and 88 correct words per minute for the informational text. These learners score 53 and 61 percent on average for the oral reading comprehension questions. Written comprehension and vocabulary tests prove extremely challenging for grade 7 learners with average scores ranging from 29 to 39 percent.

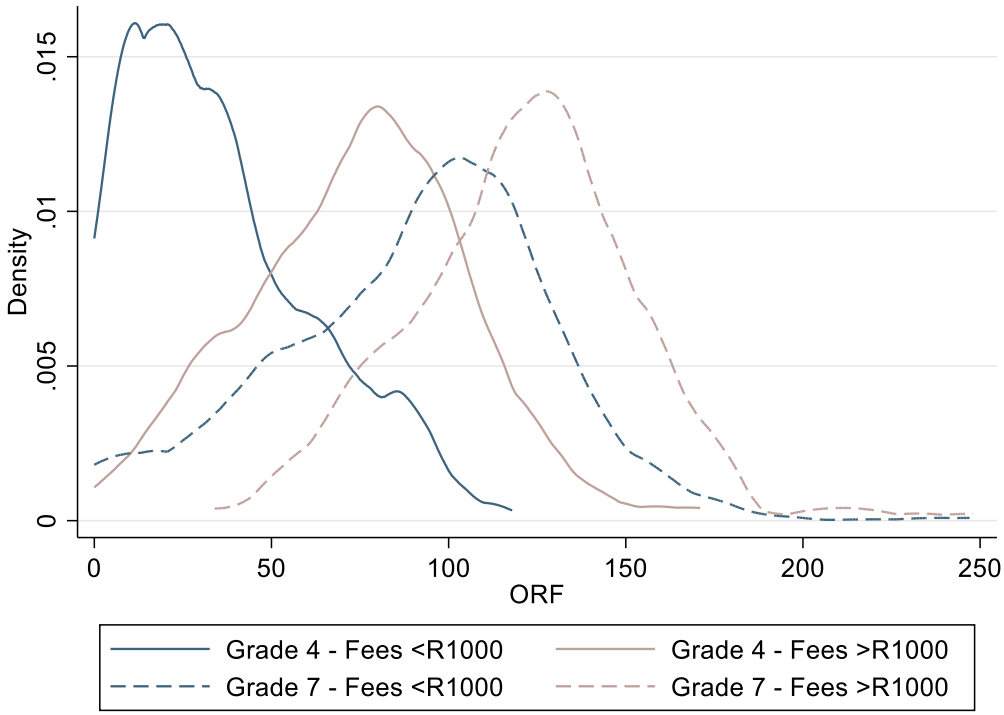
Table 16: Mean reading skills by grade

	Grade 4	Grade 7

	Mean	% scoring zero	Mean	% scoring zero
Phonemic awareness	55%	1%		
Letter sounds	58	1%		
Complex sounds	29	4%		
Familiar words	45	5%		
Oral reading fluency - passage 1	41	8%	94	2%
Comprehension - passage 1	34%	23%	53%	4%
Oral reading fluency - passage 2	42	7%	88	2%
Comprehension - passage 2	38%	16%	61%	3%
Written comprehension - passage 1	17%	50%	32%	11%
Written comprehension - passage 2	18%	42%	29%	13%
Written comprehension - passage 3			34%	12%
Vocabulary			39%	10%

We next turn to examine learner performance by fee group. Figure 3 shows the distribution of oral reading fluency (ORF) for grade 4 and 7 learners separately for learners in no- or low- fee schools and learners in schools with fees in excess of R1000. For both grades, the distribution of ORF for higher fee schools lies substantially to the right of that for no- and low- fee schools. Indeed, the distribution for the higher fee grade 4 learners is to the right of the no- and low- fee grade 7 learners. In the no- and low- fee schools, the ORF distribution for grade 4 learners is very skewed with the bulk of learners reading very slowly. Across all reading skills assessed, we observe stark differences in learner performance between the two fee groups (Appendix Table 1).

Figure 3: Oral reading fluency distribution by grade and fee group



The analysis of individual comprehension questions (Box 2) suggests that comprehension scores for slower readers will be biased. More importantly, for these slower readers, the relationship between words read and questions attempted induces a mechanical relationship between fluency and comprehension. We therefore restrict our focus to learners who read far enough into the passage to attempt all questions for our analysis of the fluency-comprehension relationship.

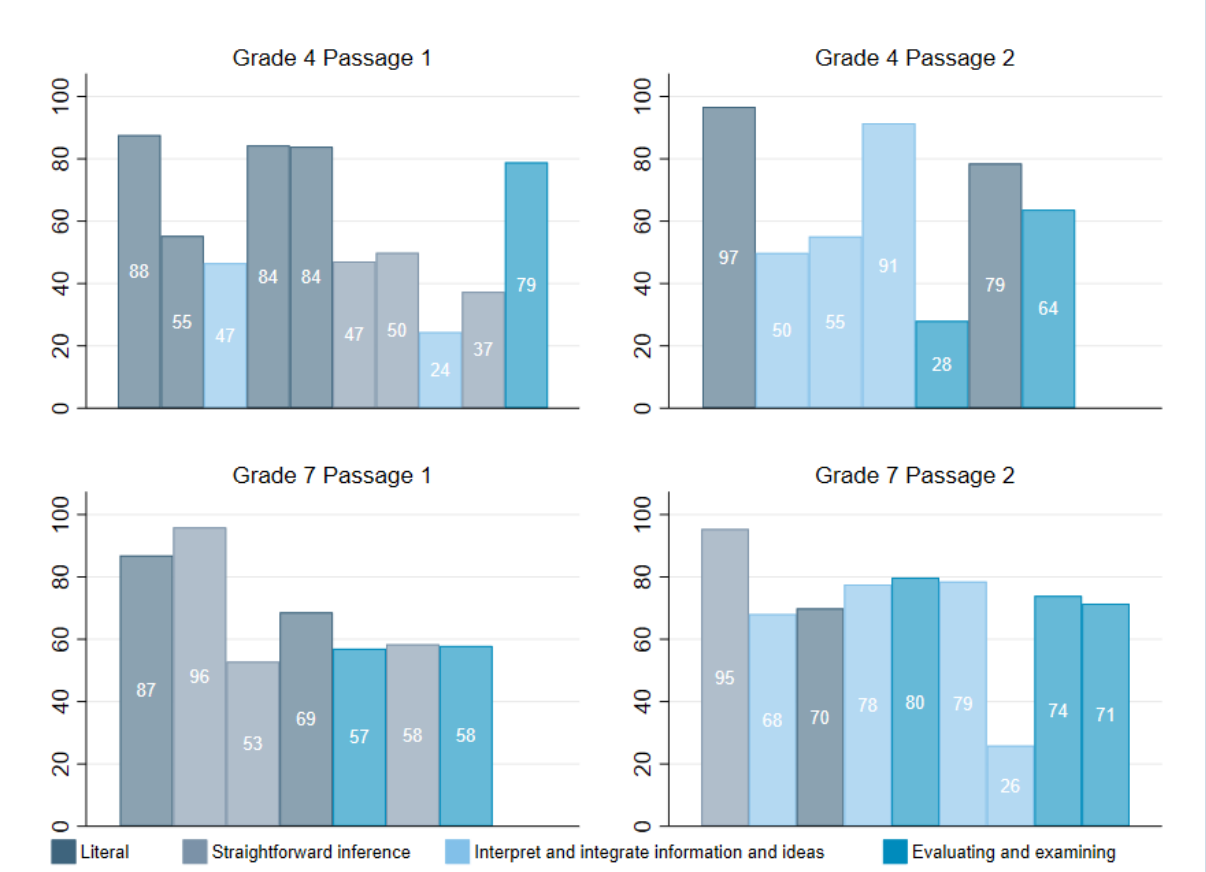
Box 2: Comprehension question difficulty – adapted from Ardington et al. (2022)

Comprehension question difficulty

We illustrate the challenge of assuming that a fixed comprehension level (e.g. 80 percent correct) is a defined construct with equivalent meaning across passages through an examination of the individual comprehension questions. Comprehension questions are classified following the PIRLS conceptual framework into four different comprehension processes: i) retrieving explicitly stated information; ii) making straightforward inferences; iii) interpreting and integrating ideas and information; and iv) evaluating and examining content, language and textual elements. Figure 4 shows how learners perform on each individual comprehension question with the colours indicating the different comprehension processes. To facilitate comparisons between questions the sample for each passage is kept constant by restricting the analysis to learners attempting all questions[2]. Examining each passage in turn, there is considerable variation in question difficulty within each comprehension process and no clear hierarchy of processes in terms of difficulty.

[2] The number of learners who attempted all questions was 479 for grade 4 passage1, 303 for grade 4 passage 2, 582 for grade 7 passage 1 and 743 for grade 7 passage 2.

Figure 4: Percent correct on each comprehension question for learners attempting all questions



Learners are only asked comprehension questions related to the parts of the passage that they read within the three-minute time limit. Learners who cannot read at all and those who read very slowly will therefore not attempt all the questions. For samples with a high proportion of non-readers, average comprehension scores are not very informative. For slow readers, we implicitly make the assumption that they would not have been able to correctly answer the comprehension questions that they did not read far enough to attempt. The analysis of individual comprehension questions in Figure 6 demonstrates that this assumption is often unlikely to be true with later questions sometimes being less challenging than earlier ones.

The columns shaded in light blue in Table 17 summarise the performance of the sub-sample of learners who attempted all questions for each passage. For the narrative and informational grade 7 passage, these learners form 60 and 76 percent of the sample who can read at least one word. For grade 4, learners who attempted all questions are a more select sub-sample of those able to read at least one word. For example, with the informational text in grade 4, only 34 percent of learners were able to complete reading the passage. The columns highlighted in green show the percentage who attempted the first five questions amongst learners who can read at least one word. Just over half (56%) of grade 4 learners who could read at least one word were able to progress far enough in the passage to attempt at least the first five questions. For the benchmarking analysis we would like to include as wide a range of comprehension questions as possible. However, our preference would be to focus on less select samples and we would also like to ensure that we have reasonable sample sizes. For the analysis of fluency-comprehension relationships, we therefore

decided to use the sub-sample of learners attempting the first five questions for the grade 4 informational passage and the sub-sample attempting all questions for the other three passages.

Table 17: Data sub-samples used to assess fluency-comprehension relationships

Grade	Passage	ORF > 0	Learners attempting all questions				Learners attempting first five questions			
			% of ORF >0 sample	Mean compre-hension score (%)	% scoring 80%+ for compre-hension	% scoring 60%+ for compre-hension	% of ORF>0 sample	Mean compre-hension score (%)	% scoring 80%+ for compre-hension	% scoring 60%+ for compre-hension
4	1	898	53%	37%	14%	30%	79%	50%	35%	51%
4	2	906	34%	41%	11%	21%	56%	47%	19%	45%
7	1	948	60%	54%	19%	35%	88%	66%	42%	68%
7	2	948	76%	63%	24%	56%	92%	73%	60%	82%

Interestingly, very few learners reach the 80 percent comprehension cut-off associated with typical benchmarking processes. The range of average scores across the passages highlight the challenges with establishing an appropriate or comparable level of comprehension assessment.

6 BENCHMARKING RESULTS

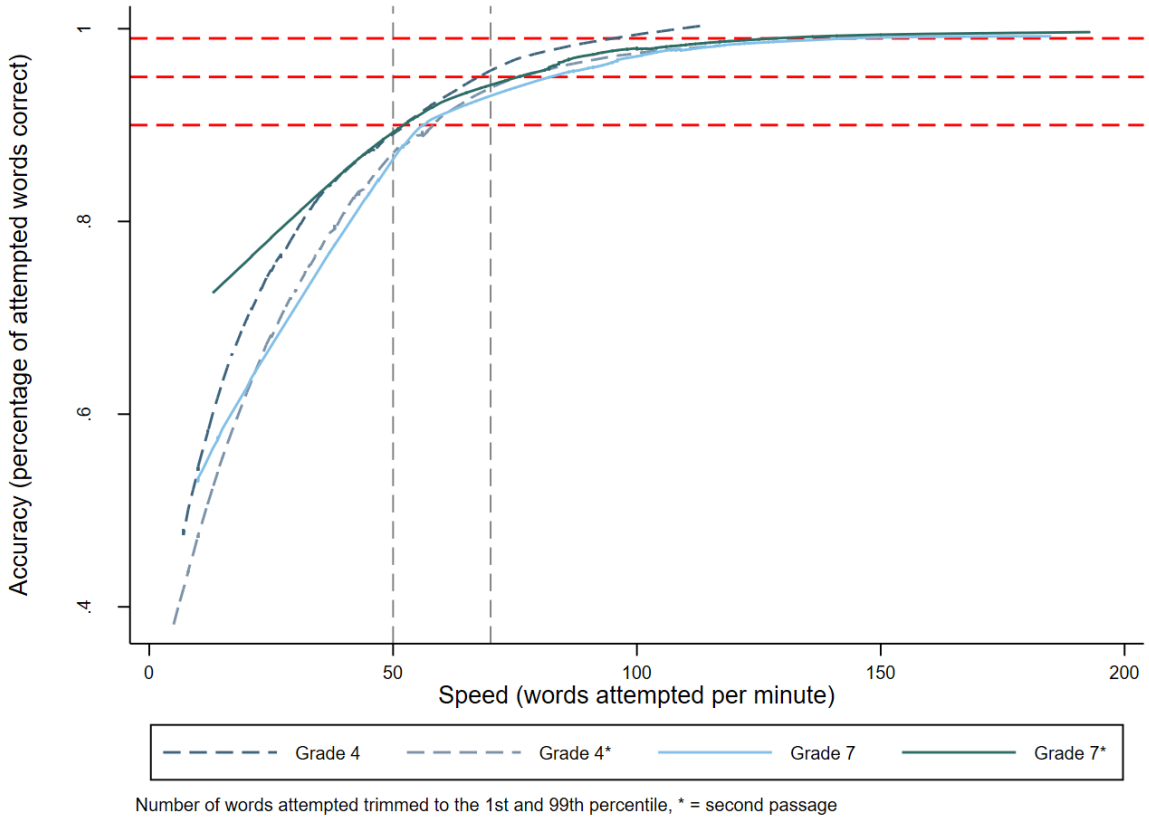
In this section we seek to establish appropriate grade-level minimum benchmarks for early grade reading in Afrikaans.

6.1 ESTABLISHING AN ORAL READING FLUENCY THRESHOLD AND BENCHMARK

6.1.1 Reading speed and accuracy

We investigate the relationship between speed and accuracy in Afrikaans oral reading in Figure 5 Speed is measured as the number of words attempted in a minute while accuracy refers to the percentage of attempted words that are read correctly. The dashed red horizontal lines represent the 90, 95 and 99 percent accuracy levels. While there are differences in the speed associated with different levels of accuracy, we observe a similar pattern in the speed-accuracy relationship across all texts. Initially speed and accuracy develop together steeply then accuracy flattens out while speed continues to develop. Accuracy tends to reach a ceiling in the instructional zone above 95 percent. The speed associated with 95 accuracy ranges from 68 to 83 words per minute across the various passages.

Figure 5: Speed and accuracy



Our approach to benchmarking is an iterative process where we examine whether suggested thresholds are contextually appropriate by investigating their attainability at various grade levels. As described in the methodology section, we typically identify the speed below which accuracy does not meet the instructional level (95 percent accuracy) as the lower threshold and have found this to be an appropriate minimum benchmark for the end of grade 2. However, in this Afrikaans sample, we find only 19 percent of learners are reading 70 correct words per minute or faster at the beginning of grade 4 suggesting that this fluency point would not be contextually appropriate for the end of grade 2. This stands in contrast to our benchmarking work for other South African languages where the lower threshold was deemed to be a suitable benchmark for the end of grade 2 (Ardington et al. 2020, Will et al. 2022, Ardington et al. 2022).

We therefore further investigate the word reading accuracy of our Afrikaans sample and compare results to data from Setswana and isiZulu learners assessed in term 3 of grade 3[3]. Figures 6 and 7 show the percent correct on each of the first 40 words of the first and second grade 4 Afrikaans passages respectively. The sample is restricted to learners who attempted at least 40 words and is therefore constant across each word and excludes learners who are very slow readers. The same results for the Setswana and isiZulu samples are presented in Figures 8 and 9 and stand in sharp contrast to the Afrikaans results. The average accuracy for almost every word is either at or close to 100 percent for the Setswana and isiZulu passages. Aside from one Setswana word, accuracy never drops below 90 percent. In both Afrikaans passages, there are many words where average accuracy is below 90 percent. While some of the words that prove challenging are longer compound words (e.g. piekniekmandjie) or foreign (e.g. Xhosa), others are not (e.g. strand).

[3] The Setswana sample is from the DBE's first Early Grade Reading Study and the isiZulu sample is from the DBE's second Early Grade Reading Study.

Figure 6: Word level accuracy for learners attempting at least 40 words – Afrikaans Grade 4 Passage 1

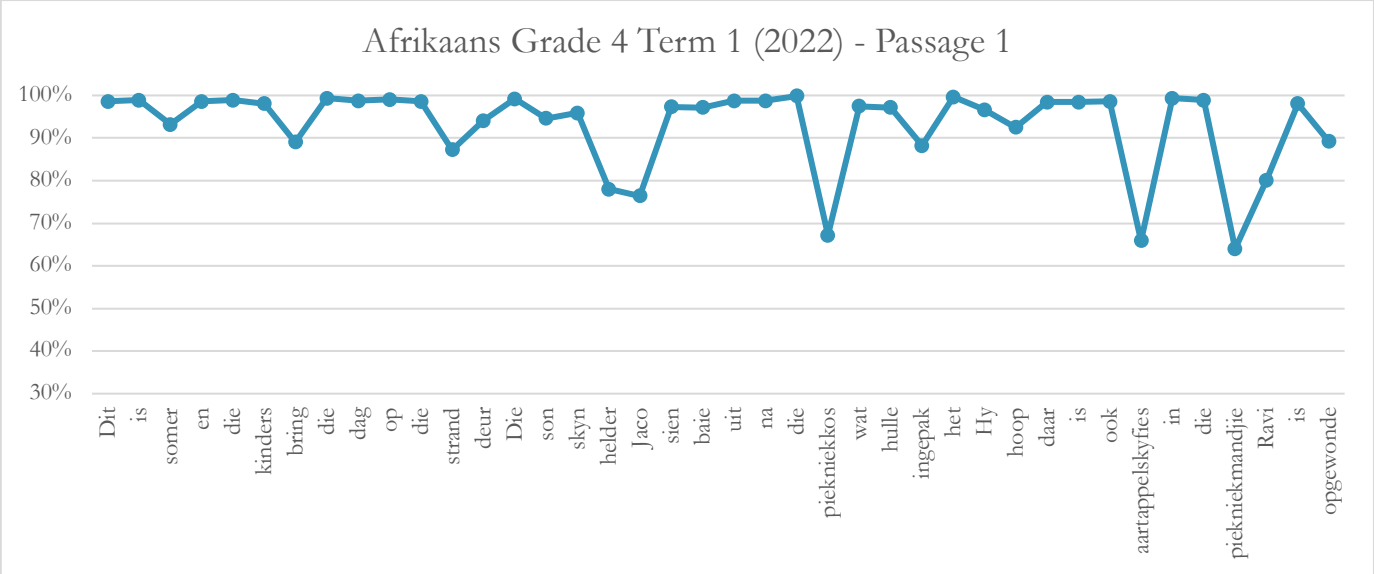


Figure 7: Word level accuracy for learners attempting at least 40 words – Afrikaans Grade 4 Passage 2

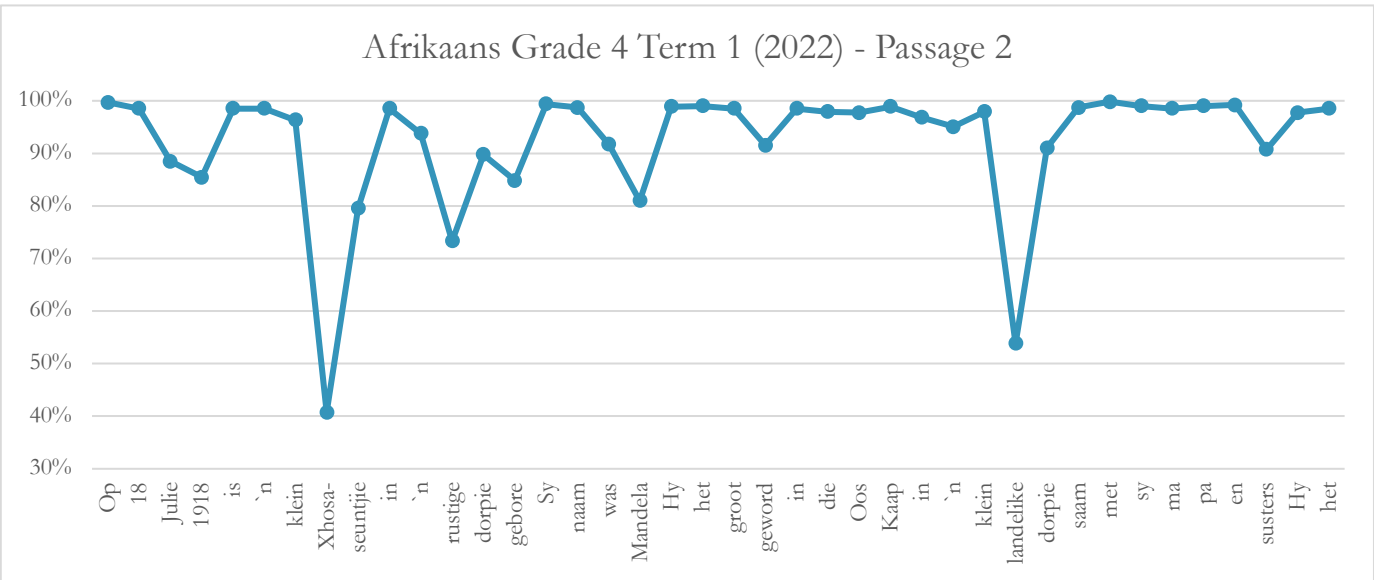


Figure 8: Word level accuracy for learners attempting at least 40 words – Setswana Grade 3

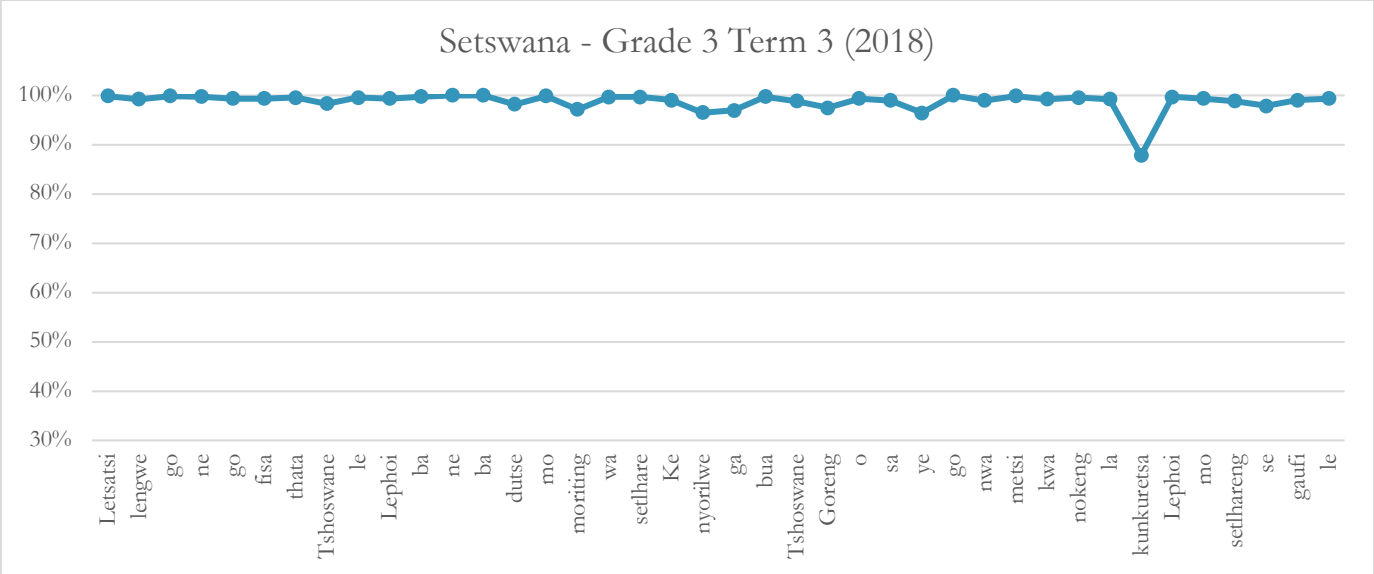
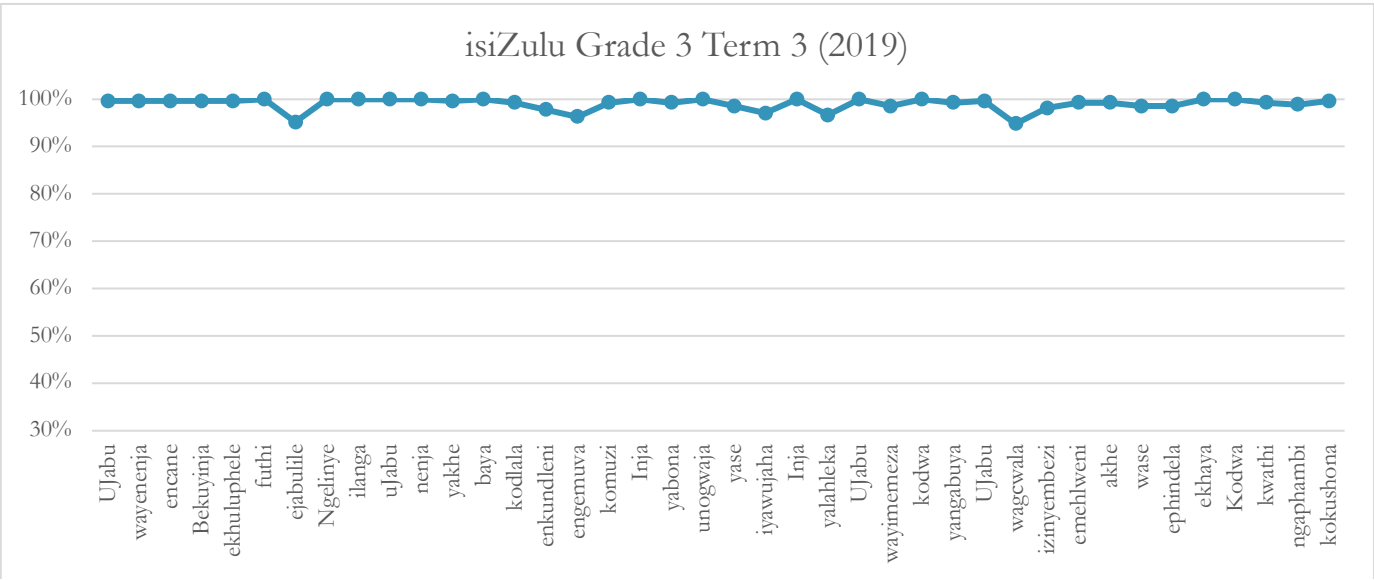


Figure 9: Word level accuracy for learners attempting at least 40 words – isiZulu Grade 3



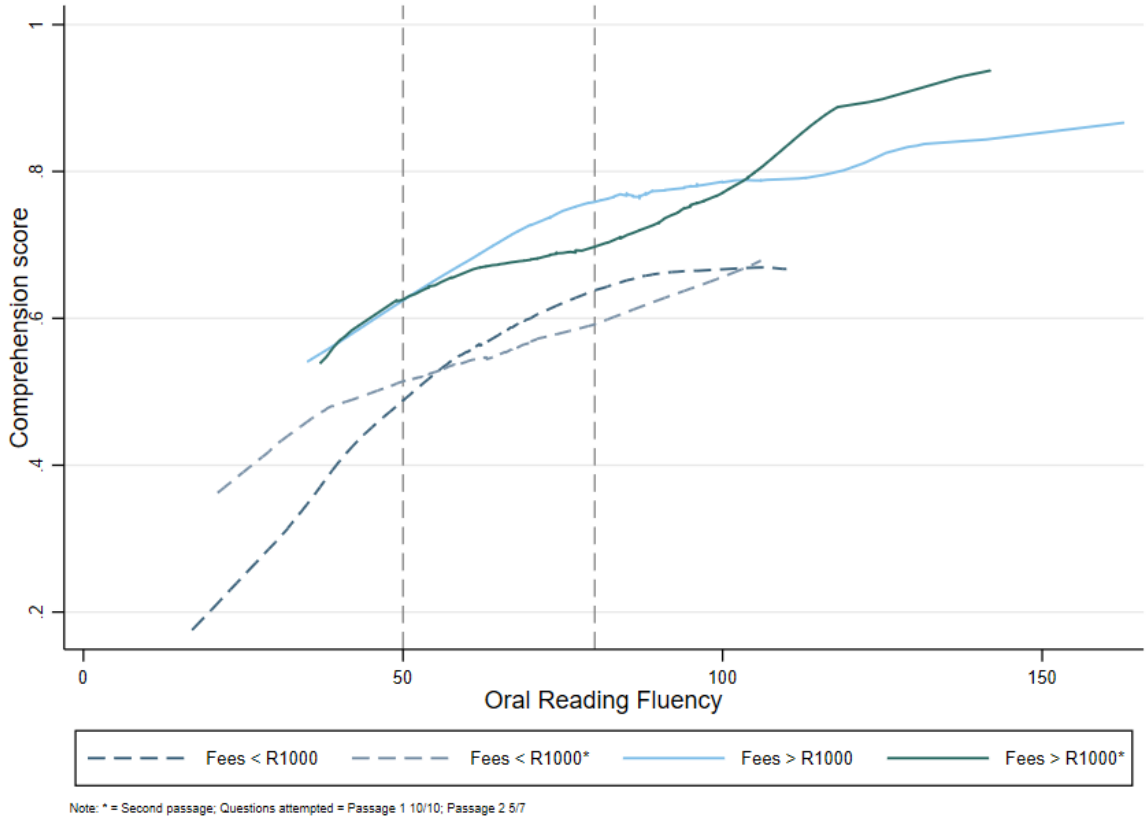
We investigated whether lower than expected word accuracy might be related to differences in field teams or regional pronunciation by examining word level accuracy separately by education district. The patterns are very consistent across districts (Appendix Figures 1 to 4).

We therefore decided that for the Afrikaans sample, the speed associated with 90 percent accuracy was a more appropriate lower threshold. This speed ranges from 53 to 58 words per minute across the passages. Consequently, the lower threshold is set at 50 words per minute.

6.1.2 Fluency and comprehension

The next step in our analysis is to examine the relationship between fluency and comprehension. The average comprehension score at each level of fluency is displayed for both grade 4 passages using local polynomial regressions in Figure 10. Given the very different levels of reading proficiency shown in section 5.4, we show separate lines for the two fee groups. As expected, average comprehension improves with increasing fluency. Learners in higher fee schools not only have higher average fluency and comprehension, but the comprehension level associated with each level of fluency is higher. For example, learners reading at around 80 correct words per minute on the first passage are scoring around 78 percent for comprehension in higher fee schools and only around 63 percent in no- and low- fee schools.

Figure 10: Fluency and comprehension for grade 4 learners by fee group



Focussing on the first grade 4 passage, we observe poor comprehension outcomes when learners are reading below 50 CWPM. In this zone, accuracy is at the frustration level and effortful decoding does not allow learners to engage sufficiently with the meaning of the text. Above 50 CWPM, comprehension skills develop steeply and learners are beginning to answer 6 to 7 out of 10 comprehension questions correctly. At around 80 CWPM the comprehension-fluency gradient begins to flatten out with diminishing comprehension gains to increasing fluency. This point is potentially an upper threshold.

Our analysis of the second grade 4 passage is somewhat limited as we are only able to focus on the first five questions (see discussion in Section 5.4). The fluency-comprehension relationship is flatter and more linear than that of the first passage. For learners in no- and low- fee schools, average comprehension scores for both passage increase from around 50 percent at 50 CWPM to 63 percent at 80 CWPM. In higher fee schools comprehension scores improve from 64 percent to 76 percent for the first passage and from 59 percent to 70 percent for the second passage over the same fluency range.

Figures 11 and 12 display the comprehension-fluency relationship for each individual comprehension question. The lines show the locally weighted polynomial regressions for the proportion of learners answering the question correctly at each level of fluency. The histogram shows the distribution of ORF for learners attempting the question. There are substantial differences in question difficulty indicated by variability in the height of the lines. However, the fluency-comprehension gradient is fairly similar across questions and aligns with the notion of non-linearities in the development of reading comprehension with fluency.

Figure 11: Oral reading fluency and individual comprehension questions – Grade 4 Term I Passage 1

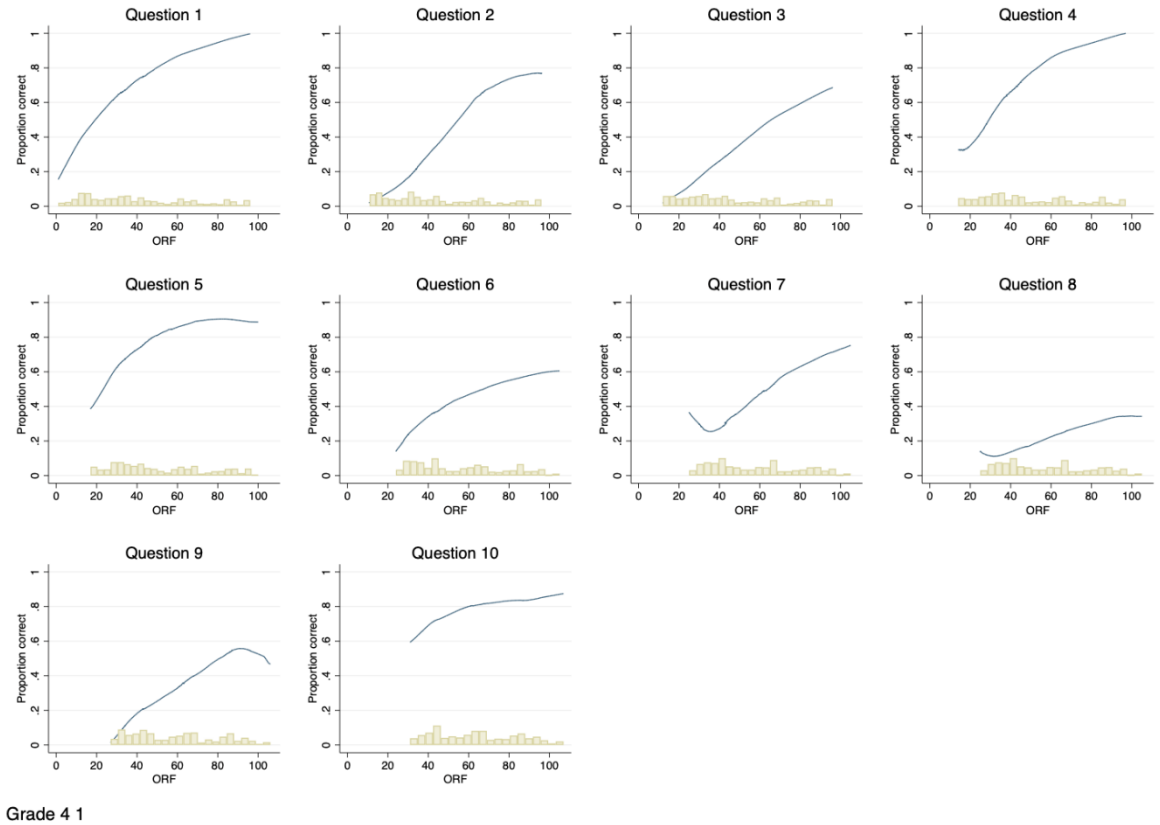
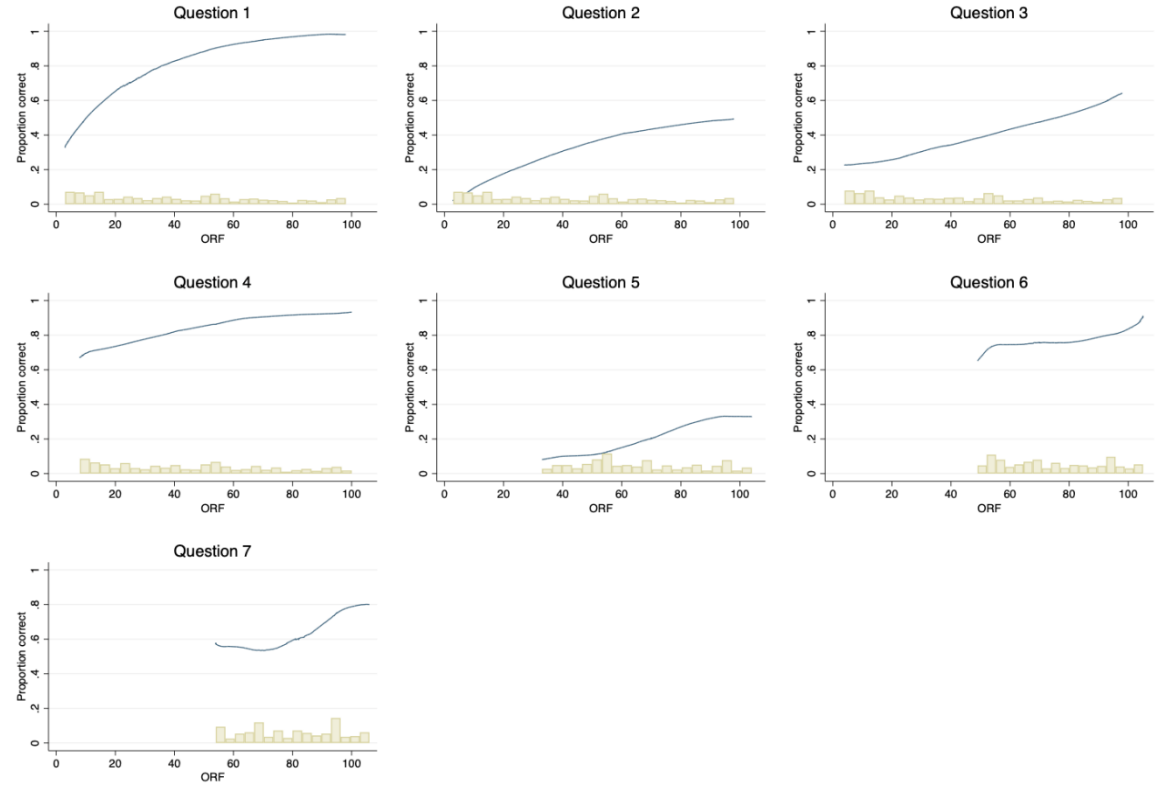
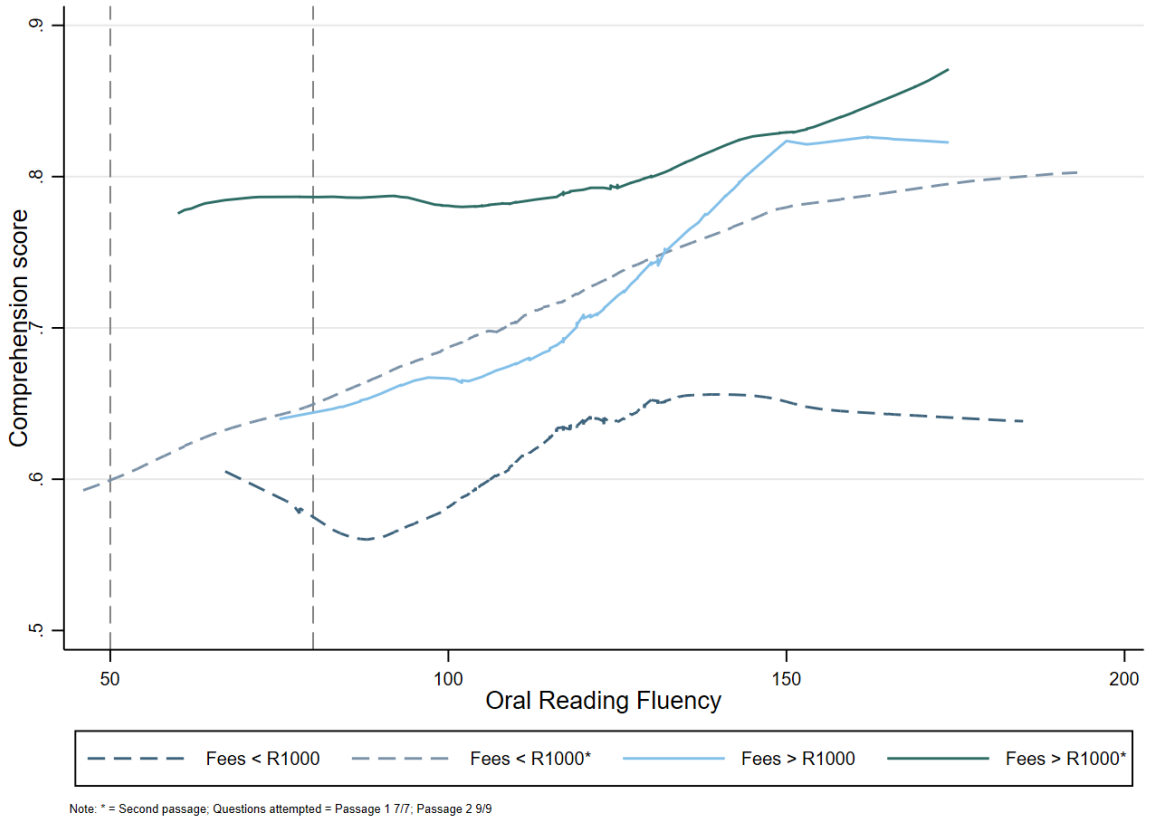


Figure 12: Oral reading fluency and individual comprehension questions – Grade 4 Term I Passage 2



The average comprehension score for each fluency level for the two grade 7 passages is presented in Figure 13. In line with results for grade 4, average comprehension at each level of fluency is higher for learners in higher fee schools. The comprehension-fluency relationship is flatter and more linear than that observed for grade 4. At each fluency level, learners tend to perform much better on the second passage. This highlights the difficulty of ensuring comparability in comprehension levels across texts and questions discussed above. The comprehension-fluency relationship for each individual comprehension question in the grade 7 passages is shown in Appendix Figures 5 and 6.

Figure 13: Fluency and comprehension for grade 7 learners by fee group



6.1.3 Thresholds and learner profiles

Next we consider whether classifying learners against the threshold and benchmark distinguishes learners into meaningful reading profiles.

Learners were classified into four groups: i) unable to read, ii) reading below the lower threshold, iii) reaching the lower threshold and iv) reaching the upper threshold. Table 18 presents summary learner profiles for each of the four reading levels by grade. Around 15 percent of grade 4 learners who cannot read a word are also unable to correctly sound one letter and the average correct letter-sounds per minute is only 25 letters. Almost a third of these learners are unable to identify even one complex sound. Grade 4 learners who are reading below the lower threshold are correctly sounding 56 letters per minute. They are reading at the frustration level with only 14 percent reaching 95 percent accuracy in word reading. They comprehend very little of what they read correctly, answering 32 percent of the questions that they attempt. Nearly half (45 percent) of these learners score zero on the written comprehension.

Grade 7 learners who have not met the lower threshold are only able to answer every second comprehension question about the parts of the passage that they have read correctly and perform very poorly on written comprehension scoring 12 percent on average. They also have very weak vocabulary, scoring 15 percent on average.

Grade 4 learners with fluency levels between the lower and upper thresholds have well established letter-sound fluency. The majority (79 percent) are reaching at least 95 percent accuracy and score 61 percent on

average for the comprehension questions. However, they perform poorly on the written comprehension with an average score of only 32 percent. The performance of grade 7 learners in this category is poor indicating that learners who are still reading below 80 CWPM by grade 7 are a select sample of weaker learners.

Grade 4 learners who have reached the upper threshold are accurate readers scoring 72 percent on average for oral comprehension. However, written comprehension still proves challenging with an average score of 48 percent for these grade 4 learners. Grade 7 learners in this category score 62 percent for oral reading comprehension but only 38 percent for written comprehension. Vocabulary is also weak with an average score of 48 percent. It should be noted that this category includes the majority of grade 7 learners and these averages mask considerable variation in scores.

Table 18: Learner profiles by benchmark level

	Grade 4	Grade 7
Cannot read: 0 CWPM		
Phonemic awareness (% of total correct)	23%	
Phonemic awareness (% scoring zero)	8%	
Mean correct letter-sounds per minute	25.1	
Letter-sounds scoring zero (%)	15%	
Complex consonant sounds per minute	4.8	
Complex consonants scoring zero (%)	31%	
Observations	74	
READING BELOW LOWER THRESHOLD: 1-49 CWPM		
Phonemic awareness (% of total correct)	51%	
Phonemic awareness (% scoring zero)	0%	
Mean correct letter-sounds per minute	56.1	
Letter-sounds scoring zero (%)	0%	
Complex consonant sounds per minute	22.4	
Complex consonants scoring zero (%)	2%	
% with at least 95% accuracy in word reading	14%	10%
Comprehension (% of total correct)	21%	22%
Comprehension (% of attempted correct)	32%	52%
Comprehension scoring zero (%)	25%	16%
Written comprehension (% correct)	8%	12%
Written comprehension scoring zero (%)	45%	18%
Vocabulary (%)		15%
Vocabulary scoring zero (%)		22%

Observations	572	114
BETWEEN LOWER AND UPPER THRESHOLDS: 50-79 CWPM		
Phonemic awareness (% of total correct)	67%	
Mean correct letter-sounds per minute	67.1	
Complex consonant sounds per minute	43.2	
% with at least 95% accuracy in word reading	79%	49%
Comprehension (% of total correct)	61%	43%
Comprehension (% of attempted correct)	61%	60%
Comprehension scoring zero (%)	1%	1%
Written comprehension (% correct)	32%	21%
Written comprehension scoring zero (%)	4%	1%
Vocabulary (%)		27%
Vocabulary scoring zero (%)		13%
Observations	183	164
MEETS GRADE 3 BENCHMARK: 80+ CWPM		
Phonemic awareness (% of total correct	74%	
Mean correct letter-sounds per minute	70.4	
Complex consonant sounds per minute	52.0	
% with at least 95% accuracy in word reading	98%	93%
Comprehension (% of total correct)	72%	62%
Comprehension (% of attempted correct)	73%	65%
Written comprehension (% correct)	48%	38%
Written comprehension scoring zero (%)	1%	1%
Vocabulary (%)		48%
Vocabulary scoring zero (%)		6%
Observations	143	670

Note: Cells with less than 30 observations are not shown

In general, classifying learners against the lower and upper thresholds produces distinct reading profiles.

6.1.4 Concurrent validity: written comprehension

We investigate the validity of the fluency thresholds in predicting learners' concurrent written comprehension skills. Figures 14 and 15 present the oral reading fluency distribution for each comprehension score for grade 4 and grade 7 learners respectively. The dashed grey lines indicate 50 and 80 CWPM. Learners who perform well on the written comprehension in grade 4, tend to mostly be reading above the lower threshold of 50 CWPM. In grade 7, the bulk of learners who pass the written comprehension are reading aloud at a fluency above the upper threshold of 80 CWPM.

Figure 14: Oral reading fluency distribution by written comprehension score – Grade 4

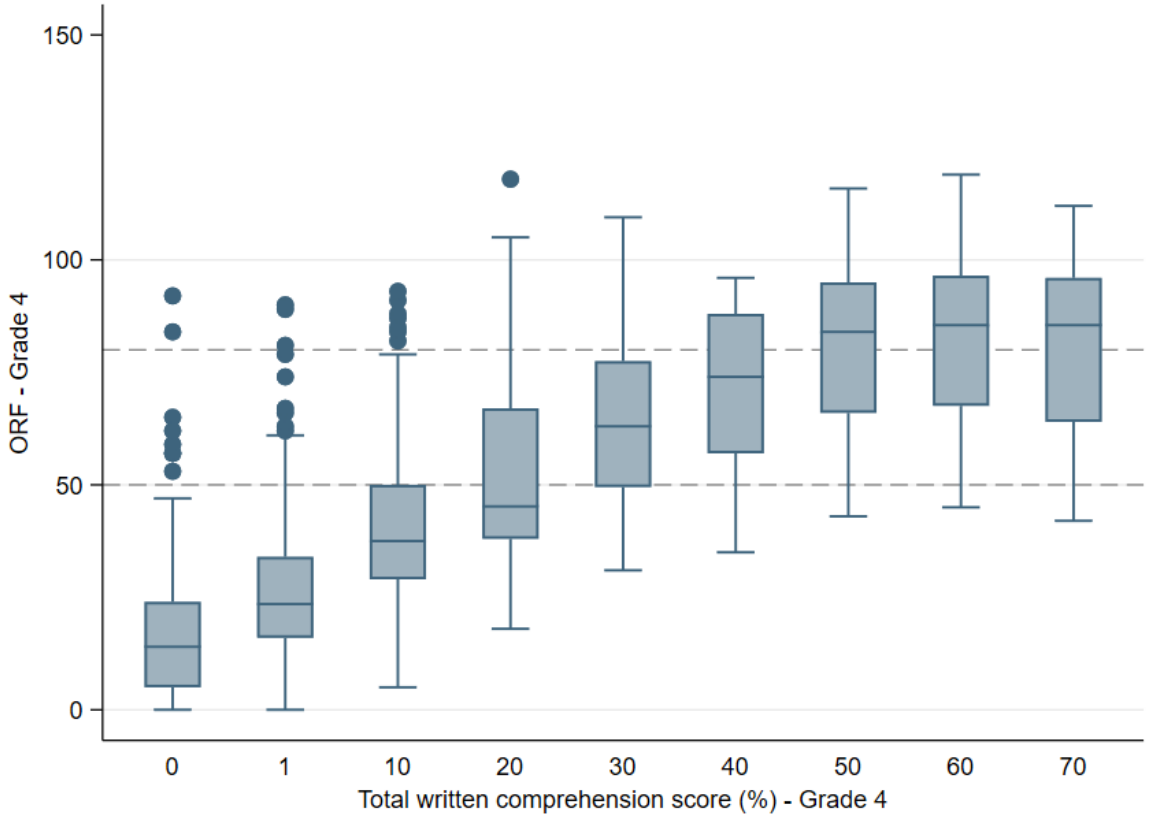
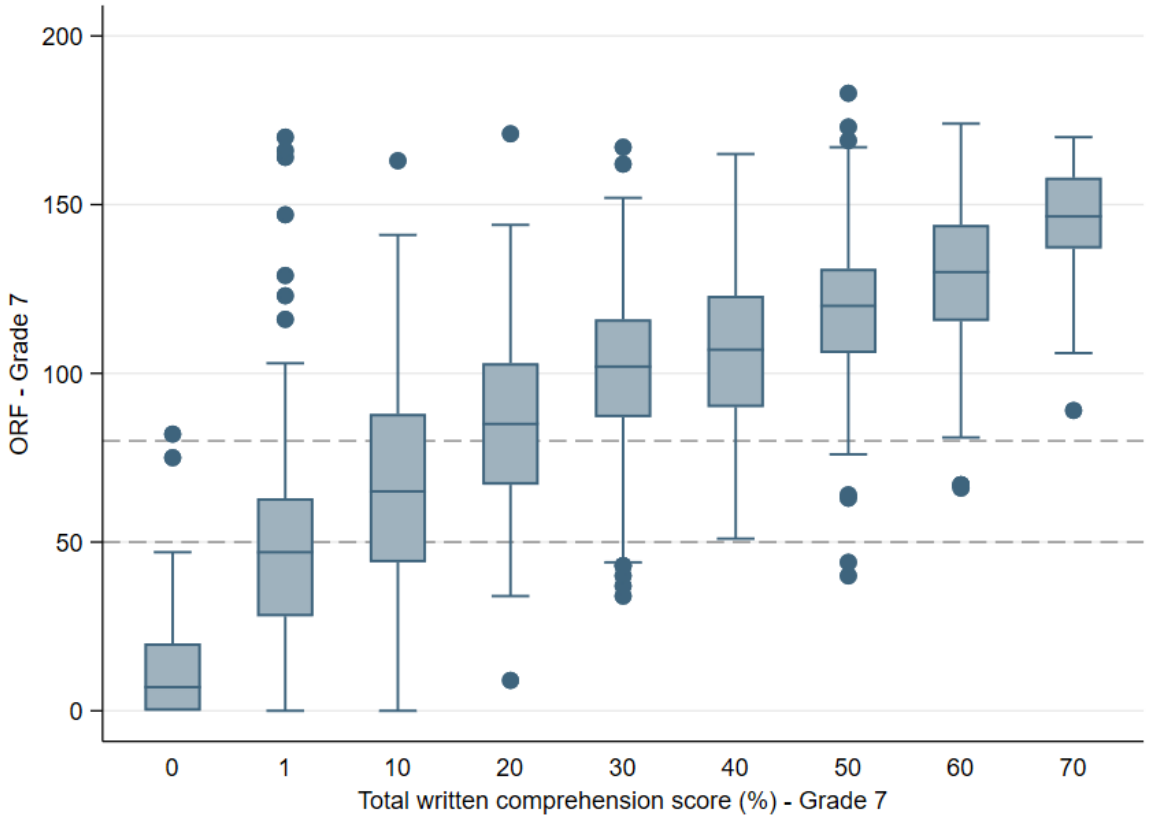


Figure 15: Oral reading fluency distribution by written comprehension score – Grade 7



6.2 Examining Attainability and Setting Grade-Specific Minimum Benchmarks

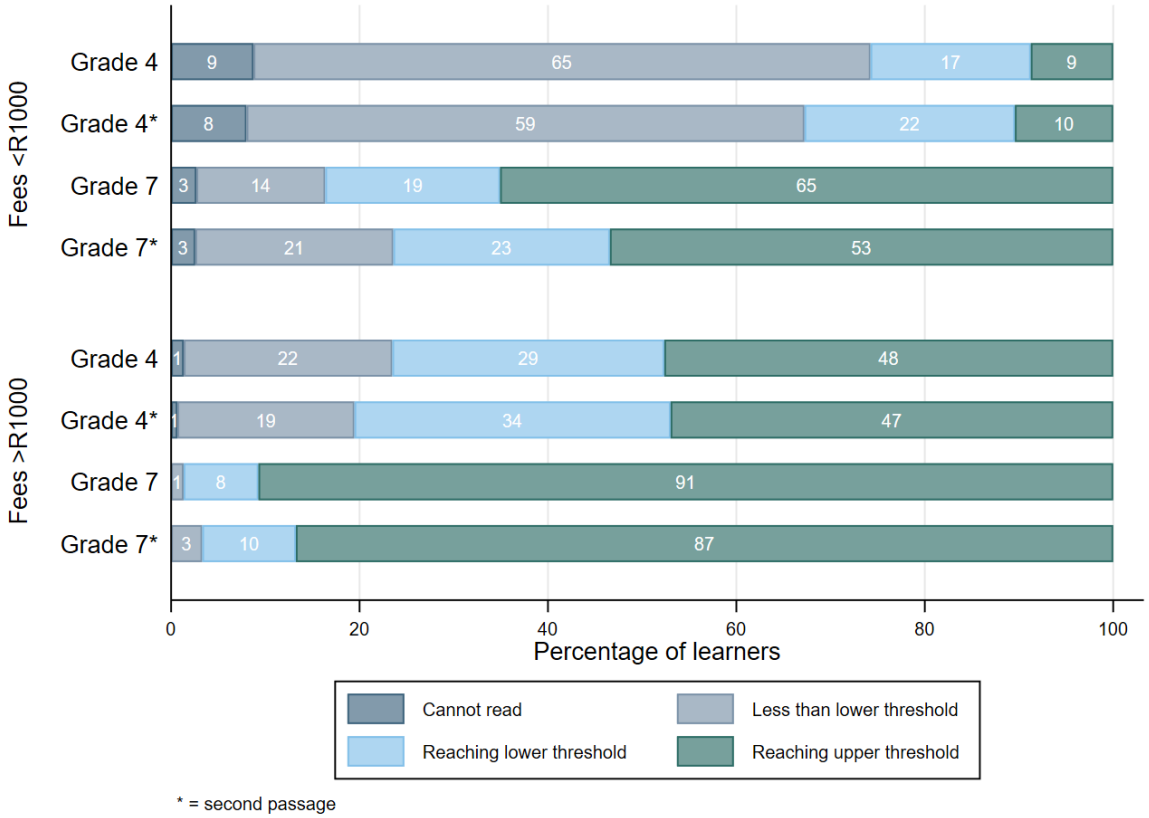
In this section, we consider the attainability of the lower and upper threshold for learners in our sample. Earlier research on Covid-19 learning losses in home language reading across three provinces suggests that learners in 2022 are around one year behind learners in the same grade pre-pandemic (Ardington, Wills and Kotze 2021, Kotze et al. 2022). In the Western Cape, recent evidence documents learning losses using the Grade 3, 6 and 9 mathematics and language systemics data comparing learner performance at the end of 2021 against performance in 2019 (van der Berg et al. 2022). This research conservatively estimates grade 3 and 6 learners to be 38 and 68 percent of a year behind in language, with the smallest effects in quintile five schools. This study assessed learners at the very beginning of grade 4 and 7 and therefore reflects proficiency levels at the end of Foundation Phase (grade 3) and Intermediate Phase (grade 6). Given the impact of Covid-19, we expect to see proficiency levels closer to the end of grade 2 and the end of grade 5.

Figure 16 shows the percentage of learners reaching the lower and upper thresholds by grade separately by fee group. Between 25 and 32 percent of grade 4 learners are reading at least as fast as the lower threshold across the two passages in no- and low- fee schools. In contrast, between 77 and 81 percent of learners in higher fee schools meet the lower threshold. This suggests that the lower threshold would be an appropriate minimum fluency benchmark for the end of grade 2. In the better resourced higher fee schools, most grade

4 learners have attained at least this level. For the no- and low- fee schools a benchmark of 50 CWPM at the end of grade 2 is ambitious enough to drive improvements in performance, while at the same time not being totally out of reach.

In no- and low- fee schools, only one in 10 grade 4 learners meet the upper threshold. In contrast, almost half of grade 4 learners in higher fee schools meet the upper threshold. For grade 7 learners, these statistics climb to between 53 and 65 percent in no- and low- fee schools and between 87 and 91 percent in higher fee schools. Taking into account the devastating impact of Covid-19, the upper threshold is a suitable minimum fluency benchmark for the end of grade 3, in that it is aspirational and supportive of improvements while at the same time being attainable by a reasonable portion of learners.

Figure 16: Percentage of learners reaching upper and lower thresholds by grade, passage and fee group



The following grade-specific minimum benchmarks are proposed:

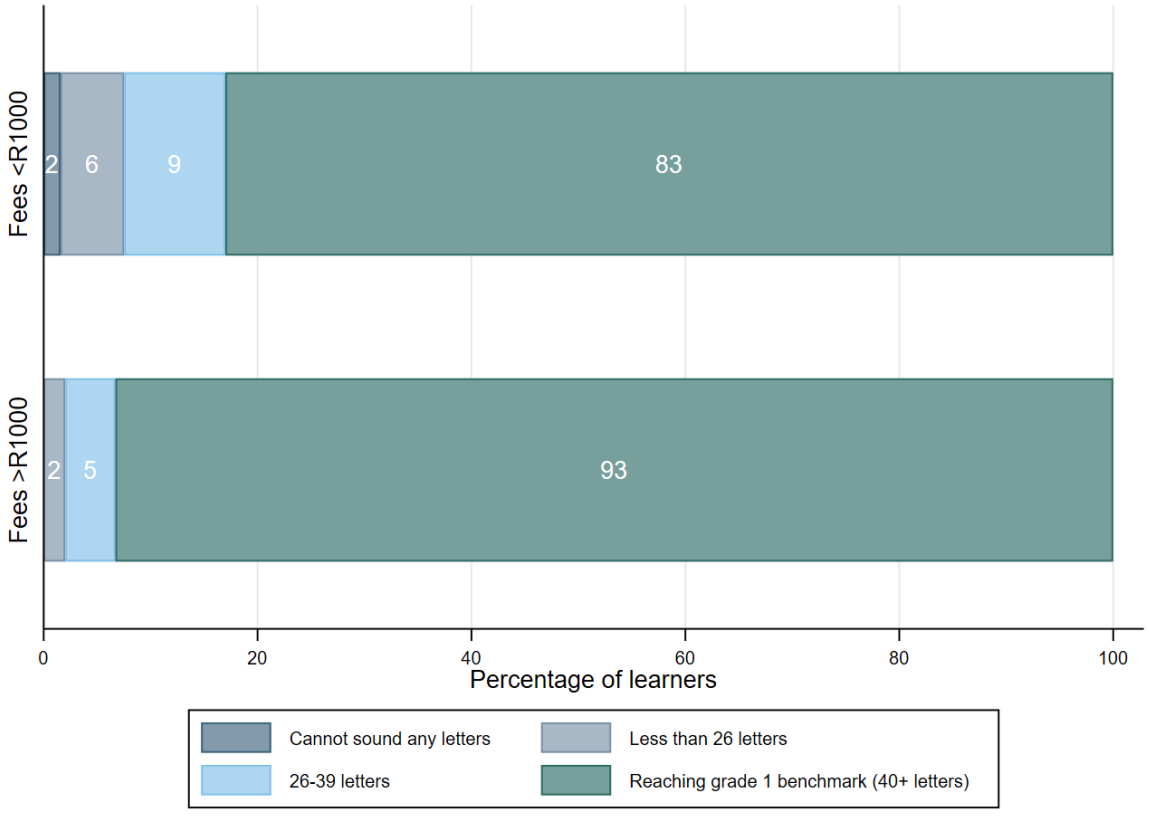
- By the end of grade 2, all learners should be able to read at least 50 correct words per minute when reading a passage. Learners not meeting this benchmark have poor accuracy and struggle to comprehend what they have read. This is therefore a minimum benchmark, if learners do not reach this level of fluency, the development of higher-order reading skills will likely not be supported.
- By the end of grade 3, all learners should be able to read at least 80 correct words per minute when reading a passage. At this level of fluency reading comprehension becomes increasingly possible when learners read indepdently. Once learners reach this level of fluency, it appears that poor comprehension skills become the limiting factor to further literacy development.

6.3 LETTER-SOUNDS BENCHMARK

Reading is a complex hierarchical phenomenon requiring the development and co-ordination of numerous knowledge bases and skills. Benchmarks for foundational skills serve as an early indicator of whether learers are on track. Letter-sound knowledge fluency has been shown to be predictive of future oral reading fluency in Setswana (Wills et al. 2022) and Nguni languages (Ardington et al. 2020) making it an appropriate foundational skill for benchmarking. The Nguni and Setswana benchmarking reports combined an analysis of learner-level longitudinal data with expert opinion on curriculum demands to identify 40 correct letter-sounds per minute as an appropriate minimum benchmark for the end of grade 1. Reaching this level was predictive of reaching later oral reading fluency benchmarks and data indicated that there were diminishing improvements in letter-sound knowledge once learners had reached 40 correct letter-sounds per minute.

Afrikaans longitudinal data is not yet available and we cannot examine the predictive validity of a letter-sound benchmark for a successful Afrikaans early grade reading trajectory nor can we investigate how letter-sound knowledge develops over time. However, all South African languages are alphabetic and it is reasonable that they should share a common letter-sound benchmark. We consider whether the letter-sound benchmark of 40 correct letter-sounds per minute is appropriate for Afrikaans by examining both the attainability of the benchmark in our Afrikaans sample. Unfortunately, we do not have data at the end of grade 1 or 2 level and can only examine letter-sound fluency in our grade 4 sample. Nevertheless, it is of interest to ascertain whether the vast majority of learners have reached this benchmark.

Figure 17: Percentage of grade 4 learners reaching letter-sound benchmark by fee group

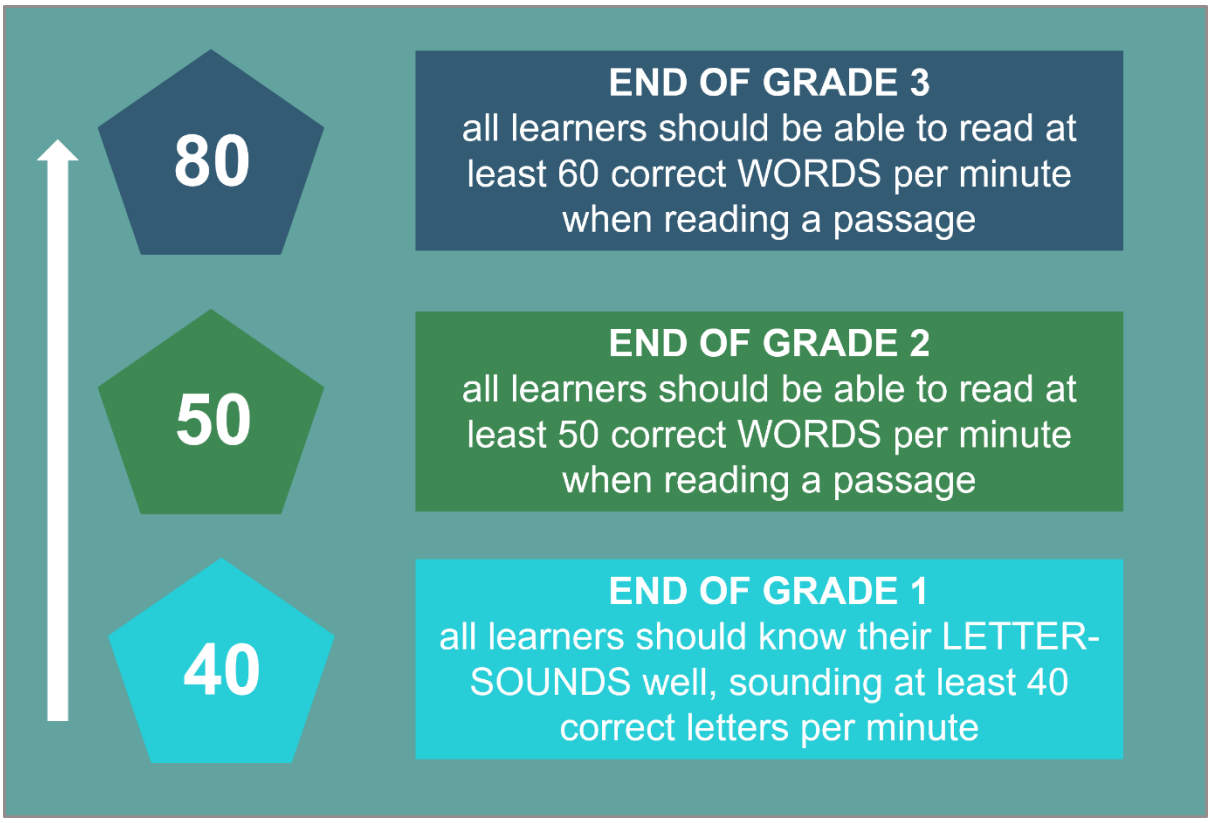


The attainability of the letter-sound benchmark is summarised in Figure 17. Grade 4 learners are classified as i) not being able to correctly sound one letter, ii) reaching less than 26 correct letter-sounds per minute, iii) reaching between 26 and 39 correct letter-sounds per minute, or iv) reaching the benchmark of 40 correct letter-sounds per minute. The vast majority of grade 4 learners are meeting the letter-sound benchmark, with a higher proportion in the schools with fees in excess of R1000 compared to those in no- or low- fee schools (93 versus 83 percent).

7 SUMMARY

The following grade-specific minimum benchmarks are proposed:

Figure 18: Grade-specific Afrikaans reading benchmarks



- By the end of grade 1, all learners should know their letter-sounds well, sounding at least 40 correct letters per minute.
    - Letters are a good early predictor of oral reading fluency (ORF) later in Foundation Phase. Improvements in letter-sound speed stagnate at 40 letters. In this sample, 85 percent of learners had reached this benchmark at the end of grade 3.
- By the end of grade 2, all learners should be able to read at least 50 correct words per minute when reading a passage

  - Below this threshold, accuracy is poor and we find little evidence that learners can comprehend what they have read. This is therefore a minimum benchmark, if learners do not reach this level of fluency, higher-order reading skills are very unlikely to develop. In this sample, 34 percent of learners had reached this benchmark at the end of grade 3.

- By the end of grade 3, all learners should be able to read at least 80 correct words per minute when reading a passage
  - At this level of fluency reading comprehension becomes increasingly possible when learners read on their own. Once learners reach this level of fluency, it appears that poor comprehension skills become the limiting factor to further literacy development. At the beginning of 2022, only 15 percent of learners in this sample had reached this benchmark at the end of grade 3. However, 69 percent of learners in the same schools had reached the benchmark at the end of grade 6.

8 REFERENCES

Abadzi, H., 2012. Developing Cross-Language Metrics for Reading Fluency Measurement, Developing Cross-Language Metrics for Reading Fluency Measurement. https://doi.org/10.1596/26819

Adams, J., Bartram, J., Chartier, Y., Sims, J., 2009. Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings. World Health Organisation. Available at: https://apps.who.int/iris/bitstream/handle/10665/44159/9789241547796_eng.pdf?sequence=1&isAllowed=y

Allington, R.L., McCuiston, K., Billen, M., 2015. What Research Says About Text Complexity and Learning to Read. *The Reading Teacher* Vol. 68 Issue 7 pp. 491–501 DOI: 10.1002/trtr.1280

Ardington, C., Wills, G., Pretorius, E., Deghaye, N., Menendez, A., Mohohlwane, N., Mtsatse, N. and Van der Berg, S. 2020. Technical Report: Benchmarking early grade reading skills in Nguni languages. Stellenbosch: ReSEP, Stellenbosch University.

Ardington, C., Wills, G., Pretorius, E., Mohohlwane, N., and Menendez, A. 2021. Benchmarking oral reading fluency in the early grades in Nguni languages. *International Journal of Educational Development*, 84, 102433.

Ardington, C., Wills, G. & Kotze, J. 2021. COVID-19 learning losses: Early grade reading in South Africa. *International Journal of Educational Development*, 86, 102480.

Ardington, C., Mohohlwane, N., Sebaeng, L., Jodar, P., Beggs, C., Makgabo, C., Maledu, A. & Zwane, Z. 2022. *Sepedi Early Grade Reading Skills Benchmarks. Technical Report.* Pretoria: DBE.

Barnby, A. & McLachlan, T. 2012. *X-kit Afrikaans for English speakers*. Pearson, South Africa.

Basson, M. & le Cordeur, M. 2018. Leesbegripprobleme van niemoedertaalsprekers in Afrikaanshuistaalklasse: moontlike oplossingstrategieë, *LitNet Akademies* Jaargang 15, Nommer 3, 2018, ISSN 1995-5928.

Betts, E. A. 1946. Foundations of reading instruction with emphasis on differentiated guidance. New York, NY: American Book Company.

Brand, I. 2016. A Narrative Enrichment Programme in literacy development of Afrikaans-speaking Grade 3 learners in monolingual rural schools. Stellenbosch Papers in Linguistics Plus, Vol. 49, 301-316 doi: 10.5842/49-0-707

Chard, D.J., Pikulski, J.J., & McDonagh, S.H. 2006. Fluency: The link between decoding and comprehension for struggling readers.

Cockroft , K. Broom, Y., Greenop, K., & Fridjohn, P. 2001. Phonological awareness and learning to read in Afrikaans, *Southern African Linguistics and Applied Language Studies*, 19:1-2, 1-12, DOI: 10.2989/16073610109486271

Department of Basic Education (DBE). 2010. The status of the language of learning and teaching (LOLT) in South African public schools: a quantitative overview. Pretoria

Department of Basic Education (DBE). 2011. Annual Schools Surveys: Report for Ordinary Schools 2010 and 2011. Pretoria.

Department of Basic Education (DBE). 2012. Annual National Assessments 2021. A Guideline for the interpretation and use of ANA results. Pretoria.

Department of Basic Education (DBE). 2015. Annual Survey of Ordinary Schools 2007. Pretoria.

Department of Basic Education (DBE). 2020. Action Plan to 2024: Towards the realisation of schooling 2030. Pretoria

Gustafsson, M. 2020. Teacher demand in South Africa in 2019 and beyond. Department of Higher Education and Training. Pretoria

Howie, S., Combrinck, C., Roux, K., Tshele, M., Mokoena, G., & McLeod Palane, N. 2017. Progress in International Reading Literacy Study 2016 - South African Childrens' Reading Literacy Achievement. Pretoria: Centre for Evaluation and Assessment

Joubert, I., Bester, M. en Meyer, E. 2015. *Geletterdheid in die Grondslagfase*, Van Schaik, Pretoria.

Khulisa Management Services. 2020. Setting reading benchmarks in South Africa. USAID Publication. Johannesburg: Department of Basic Education.

Kotze, J., Wills, G., Ardington, C., Taylor, S., Mohohlwane, M. & Nuga-Deliwe, C. 2022. Learning losses due to the COVID- pandemic. Advisory Note for the Reading Panel 2022.

Lutrin. B. 2020. Afrikaans Handbook and study guide, An English students guide to Afrikaans. Berlut Books, South Africa.

Malda, M, Nel, C & van de Vijver, FJR. 2014. The road to reading for South African learners: The role of orthographic depth. Learning and Individual Differences, 30: 34-45. http://dx.doi.org/10.1016/j.lindif.2013.11.008

Marthinussen, P. & van der Merwe, M. 2015. 'n Aangepaste bewustheidsprogram om fonologiese en fonemiese bewustheid in aanvangslees van graad 1-leerders in 'n taalarm omgewing te verbeter. Per Linguam, 31(2):53-78. http://dx.doi.org/10.5785/31-2-613

Room to Read, 2018. Setting Data-Driven Oral Reading Fluency Benchmarks Guidance Note. Research Triangle Park, NC.

RTI International. 2017. All Children Reading-Asia: EGRA Benchmarks and Standards Research Report

Scheepers, M., Geertsema, S., Le Roux, M. & Graham, M., 2021, 'Phonological awareness and learning to read in Afrikaans: The role of working memory', *South African Journal of Childhood Education* 11(1), a947. https://doi.org/10.4102/sajce.v11i1.947

South African Government, The Presidency. (2019) The State of the Nation Address. Available at: https://www.gov.za/speeches/president-cyril-ramaphosa-2019-state-nation-address-7-feb-2019-0000

van der Berg, S., Hoadley, U., Galant, J., van Wyk, C. & Bohmer, B. 2022. Learning losses from Covid-19 in the Western Cape: Evidence from systemic tests. RESEP. Stellenbosch University.

Wang, Z., Sabatini, J., O'Reilly, T., and Weeks, J. 2019. Decoding and Reading Comprehension: A Test of the Decoding Threshold Hypothesis. Journal of Educational Psychology. 111. 387-401. 10.1037/edu0000302.

Wills, G., Ardington, C., Pretorius, E., Pooe, E., Ramagoshi, R. 2022. Benchmarking Early Grade Reading Skills: Setswana and English First Additional Language. Technical Report. Khulisa Management Services. Johannesburg.

World Bank. 2020. Ending Learning Poverty. What will it take? World Bank. Washington.

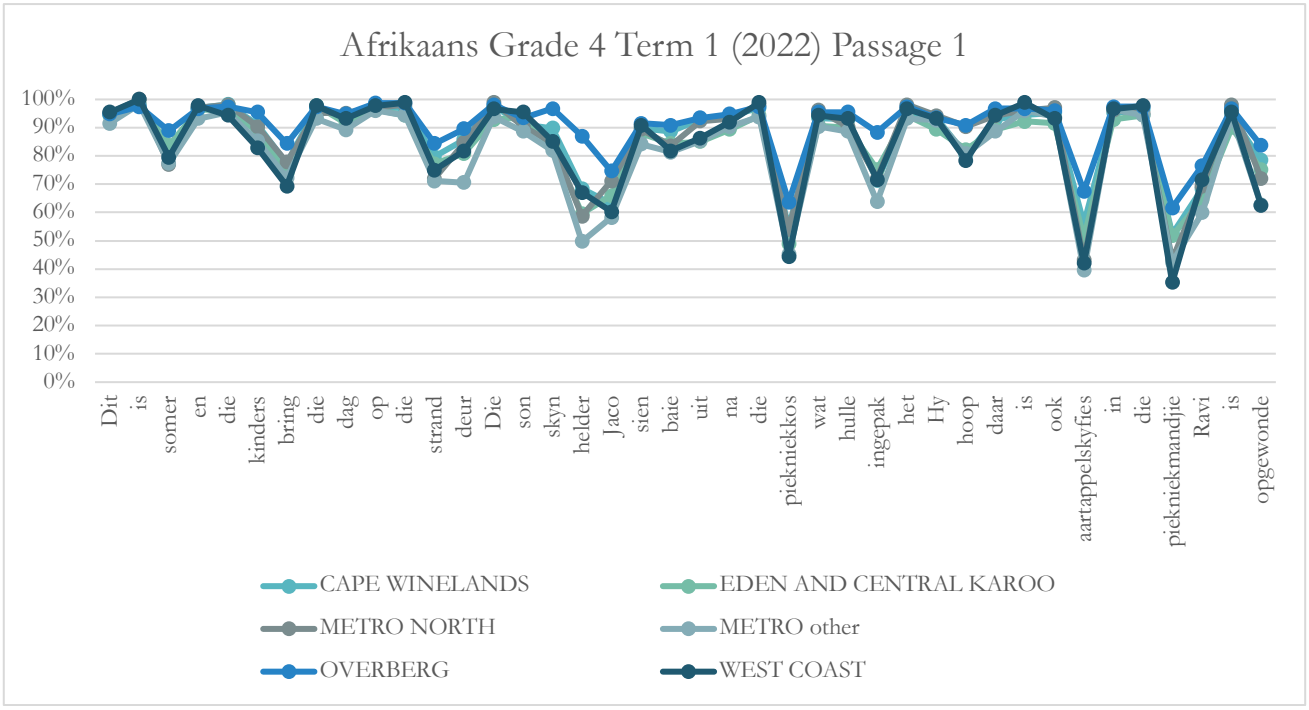
Zoch, A. 2017. The effect of neighbourhoods and school quality on education and labour market outcomes in South Africa: Stellenbosch Economic Working papers. *Department of Economics, University of Stellenbosch, South Africa.* www.ekon.sun.ac.za/wpapers/2017/wp082017

9 APPENDIX

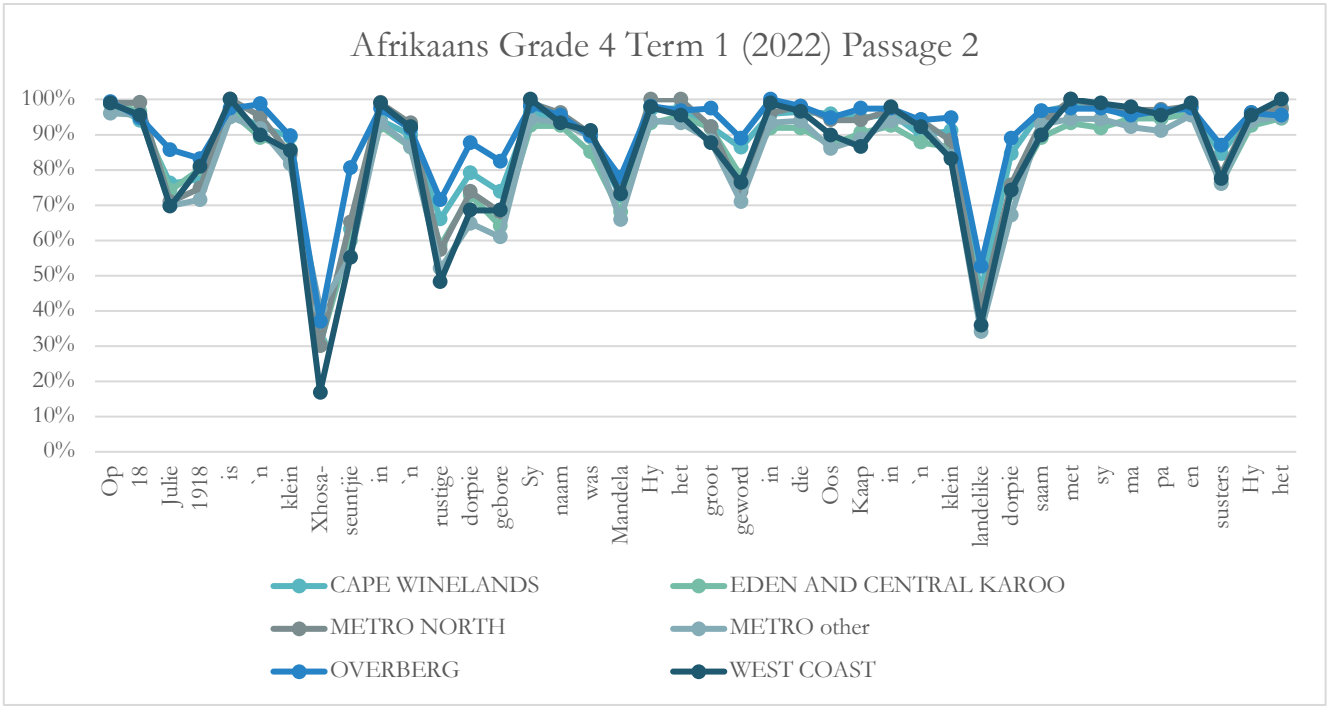
Appendix Table 1. Average reading skills by grade and fee group

	Grade 4		Grade 7	
	No- and low-fee	Fees > R1000	No- and low-fee	Fees > R1000
Letter sounds	57	65		
Complex sounds	27	43		
Familiar words	40	74		
Oral reading fluency - passage 1	35	74	90	121
Comprehension - passage 1	29%	67%	50%	70%
Oral reading fluency - passage 2	36	75	82	118
Comprehension - passage 2	33%	67%	50%	78%
Written comprehension - passage 1	13%	40%	26%	50%
Written comprehension - passage 2	14%	42%	29%	48%
Written comprehension - passage 3			30%	54%

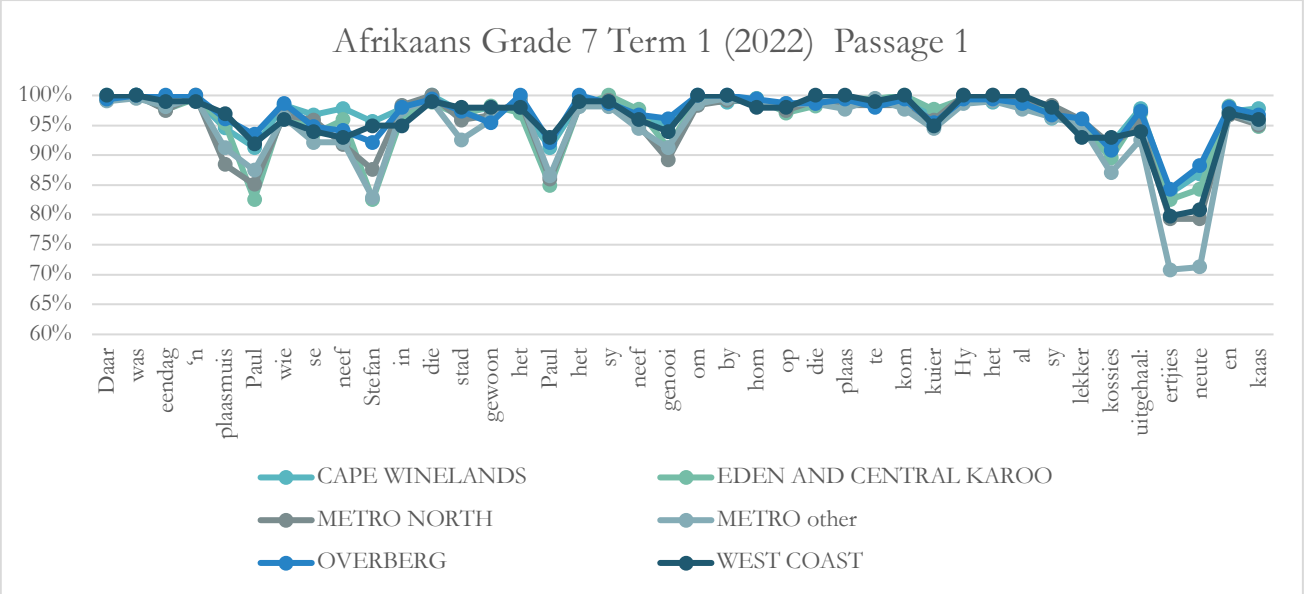
Appendix Figure 1: Word level accuracy for grade 4 learners attempting at least 40 words by region – Passage 1



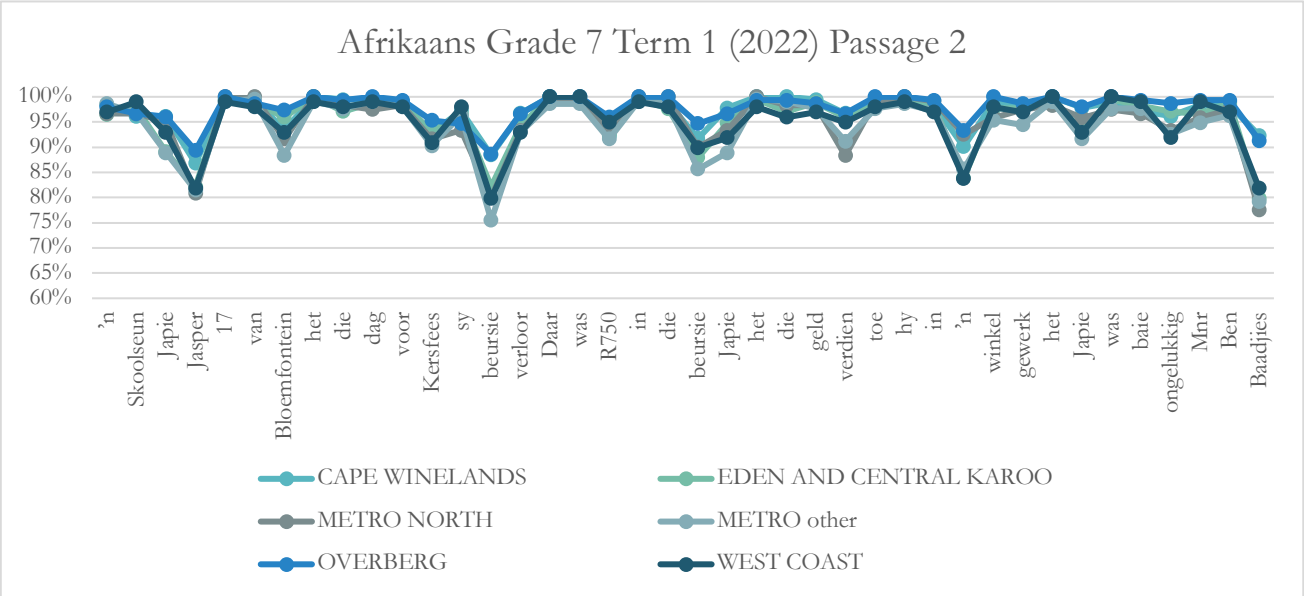
Appendix Figure 2: Word level accuracy for grade 4 learners attempting at least 40 words by region – Passage 2



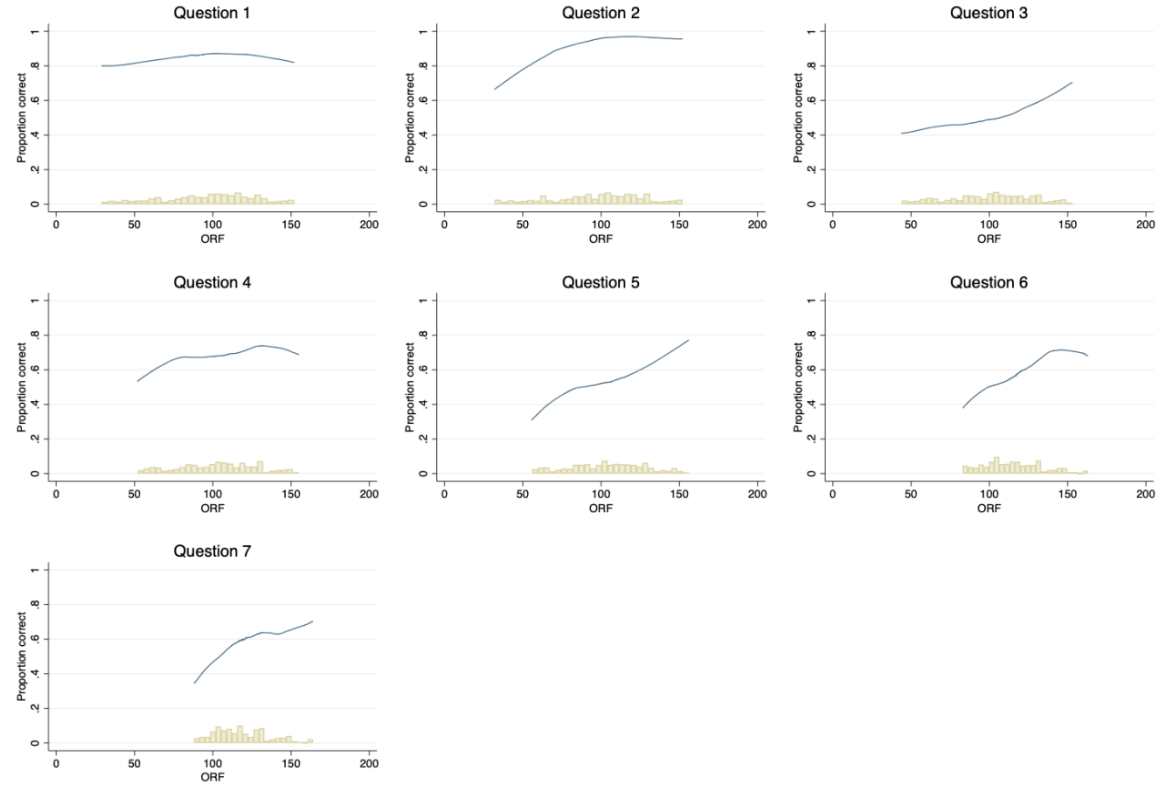
Appendix Figure 3: Word level accuracy for grade 7 learners attempting at least 40 words by region – Passage 1



Appendix Figure 4: Word level accuracy for grade 7 learners attempting at least 40 words by region – Passage 2

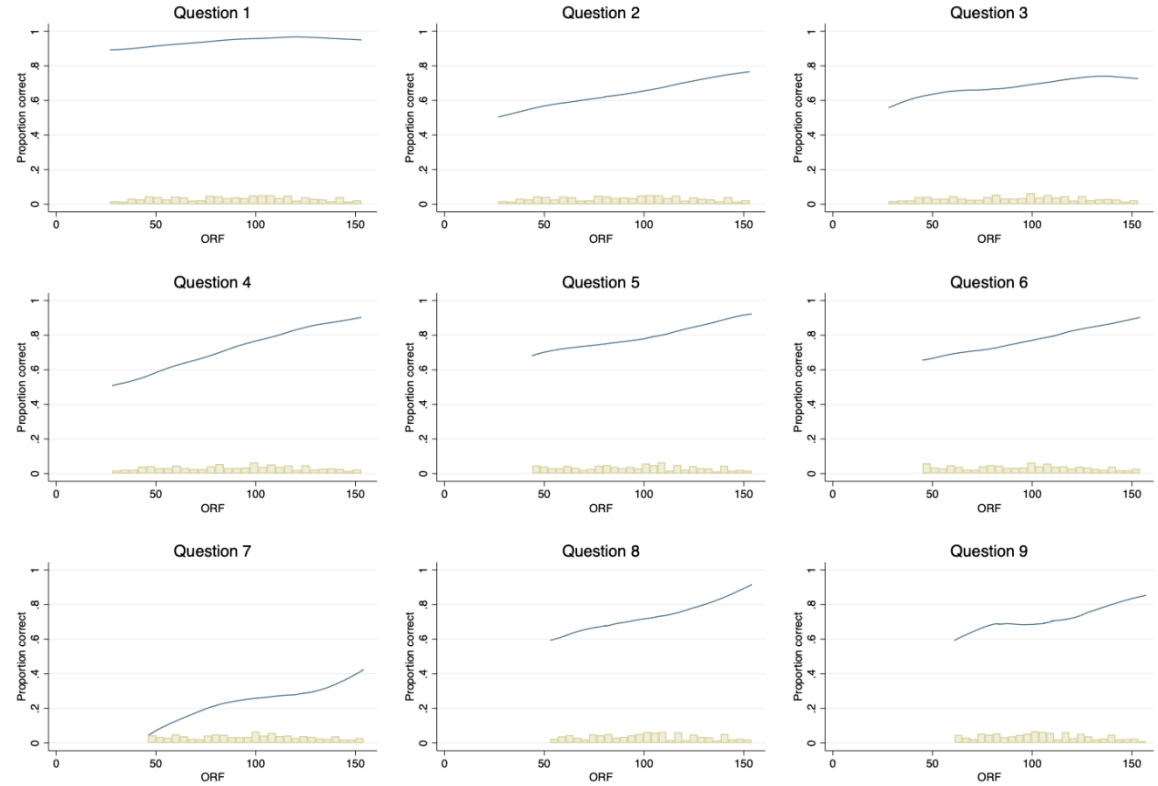


Appendix Figure 5: Oral reading fluency and individual comprehension questions – Grade 7 Term I Passage 1



Grade 7 1

Appendix Figure 6: Oral reading fluency and individual comprehension questions – Grade 7 Term I Passage 2



Grade 7 2

Published by the Department of Basic Education

222 Struben Street

Private Bag X895, Pretoria, 0001

Telephone: 012 357 3000 Fax: 012 323 0601

ISBN Number: 978-1-4315-3412-8

website: www.education.gov.za

facebook: www.facebook.com/BasicEd

twitter: www.twitter.com/dbe_sa

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Funda Wande
Reading for Meaning

University of Cape Town · Iyunivesithi yaseKapa · Universiteit van Kaapstad

Western Cape Government
Education

SALDRU
Southern Africa Labour and Development Research Unit

Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT