

Foundational Skills In Home Language Reading:

Empirical evidence from South African EGRA studies
2015–2021

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EARLY GRADE READING IN SOUTH AFRICA

READING



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Reading Benchmarks for African Languages

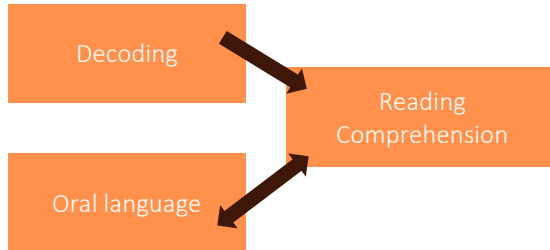


Introduction

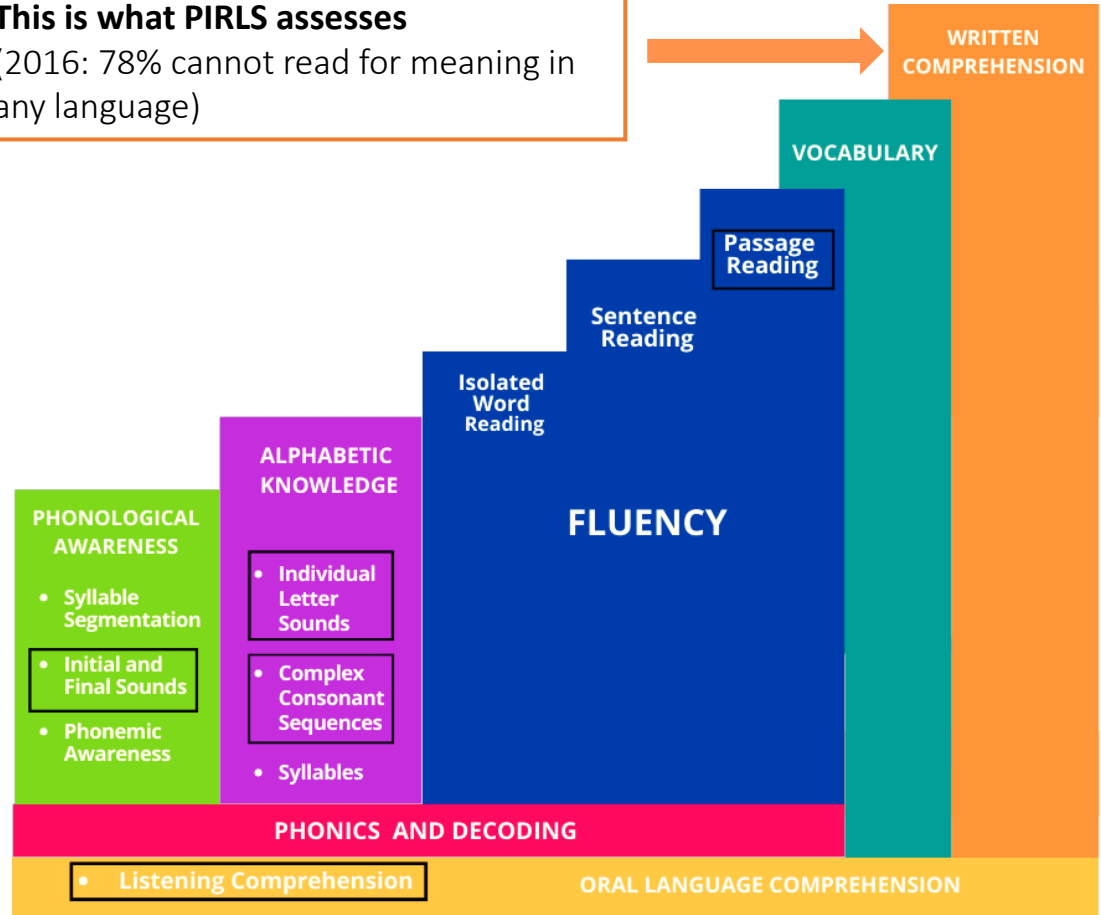
- Much of the South African discourse on reading has focused on the end point of the learning-to-read journey → **written reading comprehension** ('tip of the iceberg').
 - Written assessments are important for monitoring national literacy levels, but...
 - do not reveal why children cannot read,
 - do not identify at what stage in the reading development sequence bottlenecks are experienced (Zuilkowski et al., 2019, p. 596).
 - We aim to shed light on which of the **building blocks** of reading children are stumbling on and when they are doing so.
- Document oral language & decoding skills (Nguni & Sesotho-Setswana languages)
- Use largest existing corpus of reading data in these languages



Numerous factors, knowledge bases, and skills that underpin reading comprehension need to coordinate and develop for learners to successfully understand a reading text.



This is what PIRLS assesses
(2016: 78% cannot read for meaning in any language)



Key Research Questions

FOUNDATIONAL SKILLS IN HOME LANGUAGE READING

4. Written Comprehension

- Does fluency predict higher levels of written comprehension?
- Does meeting fluency benchmarks support improved future comprehension?

3. Oral Reading Fluency (Passage Reading)

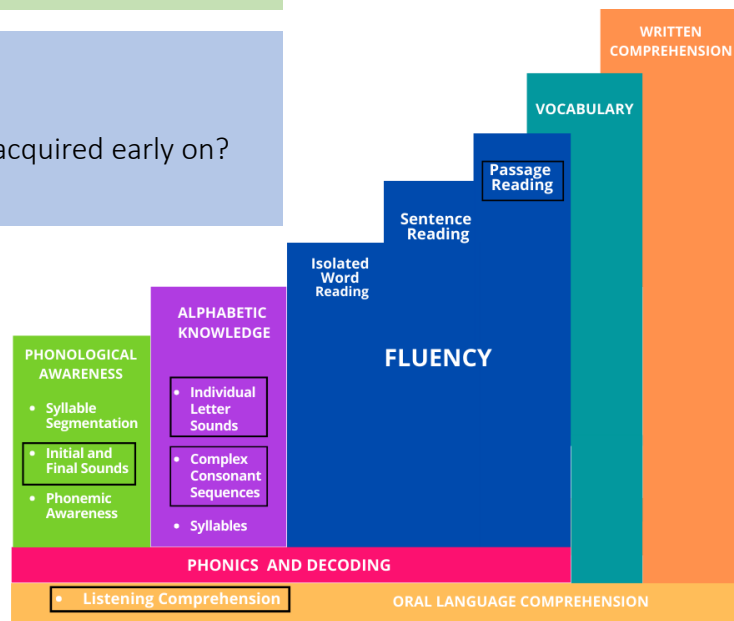
- Explore levels of oral reading fluency in primary grades
- Do fluency trajectories differ depending on levels of decoding skills acquired early on?
- Do fluency trajectories differ across boys and girls?

2. Alphabetic Knowledge

- How well does alphabetic knowledge develop in early grades?

1. Oral Language Skills

- What are learners' levels of phonological awareness at the start of school?
- How well developed are their listening comprehension skills at the start of school?



Data

- No nationally representative surveys in South Africa which measure decoding skills. But various studies have used Early Grade Reading Assessments

→ We compile a growing dataset of EGRA-type tests in African language from 6 different studies from 2015 to 2021

- Multiple assessment points - grades 1 to 7
 - Can be compared over time
 - 41000 learners
 - 1020 unique schools, mostly no-fee schools, high poverty
 - 6 provinces
 - 5 home languages
-
- Not nationally representative but provides a very clear indication of learners' foundational reading skills

FOUNDATIONAL SKILLS IN HOME LANGUAGE READING

EGRS I (NW) & RSP

EGRS II (MP)

Leadership for
Literacy (LFL)
(KZN, LP, GP)

Funda Wandé (FW)
(EC)

Funda Wandé
(LP)

Story Powered
Schools (SPS)
(EC, KZN)

Ardington & Meiring, 2020; Ardington, Hoadley & Menendez, 2019; Ardington & Henry, 2021; Department of Basic Education, 2019; Cilliers et al. 2021; Taylor, Wills & Hoadley, 2019

Oral Language Skills at the Start of School?

CAPS: a grade R learner “understands that words consist of more than one sound” and “distinguishes aurally between different sounds especially at the beginning of words”

(Department of Basic Education 2011, p. 40).

EC: vuka | kodwa | misa
MPU: busa | gogo | wena

	Pre-pandemic	
	Eastern Cape	Mpumalanga
Ability to identify initial sounds of words (phonemic awareness):		
% of learners scoring zero (i.e. 0 of 3 items correct)	49%	68%
% of learners answering all 3 oral items correctly	23%	7%
Observations (Grade 1 learners, Term 1)	590	3327

Alphabetic Knowledge – Letter Sounds

None Does not sound any Correct Letter Per Minute (CLPM)

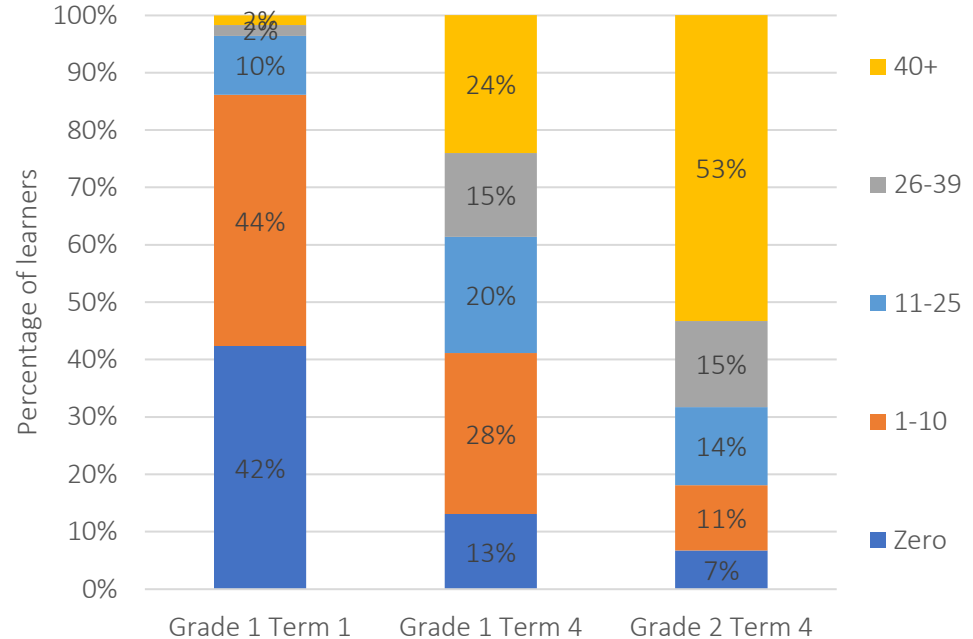
Very limited 1-10 CLPM

Limited 11-25 CLPM

Emergent 26-39 CLPM
*as many letters in alphabet

Basic alphabetic ≥ 40 CLPM
*grade 1 benchmark

Fig: Letter-sound knowledge in grades 1 and 2, North West province sample (Setswana)

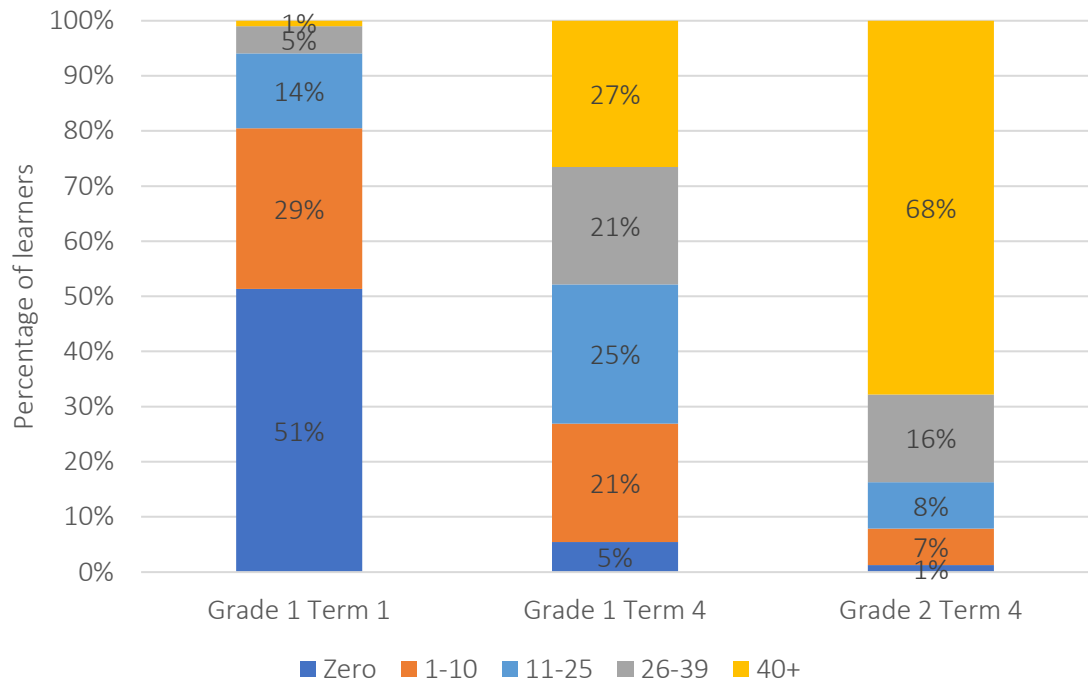


Notes: EGRS I (waves 1-3), own calculations. Unbalanced panel including repeaters.
N = 4452 grade 1 term 1, 4138 grade 1 term 4, 3712 grade 2 term 4.

Pre-pandemic

Alphabetic Knowledge – Letter Sounds

Fig 2: Letter-sound knowledge in grades 1 and 2, Eastern Cape sample (isiXhosa)



Development of decoding skills remains too slow

Majority of learners entering school with virtually no knowledge of the code of their home language

... despite having spent a year in Grade R

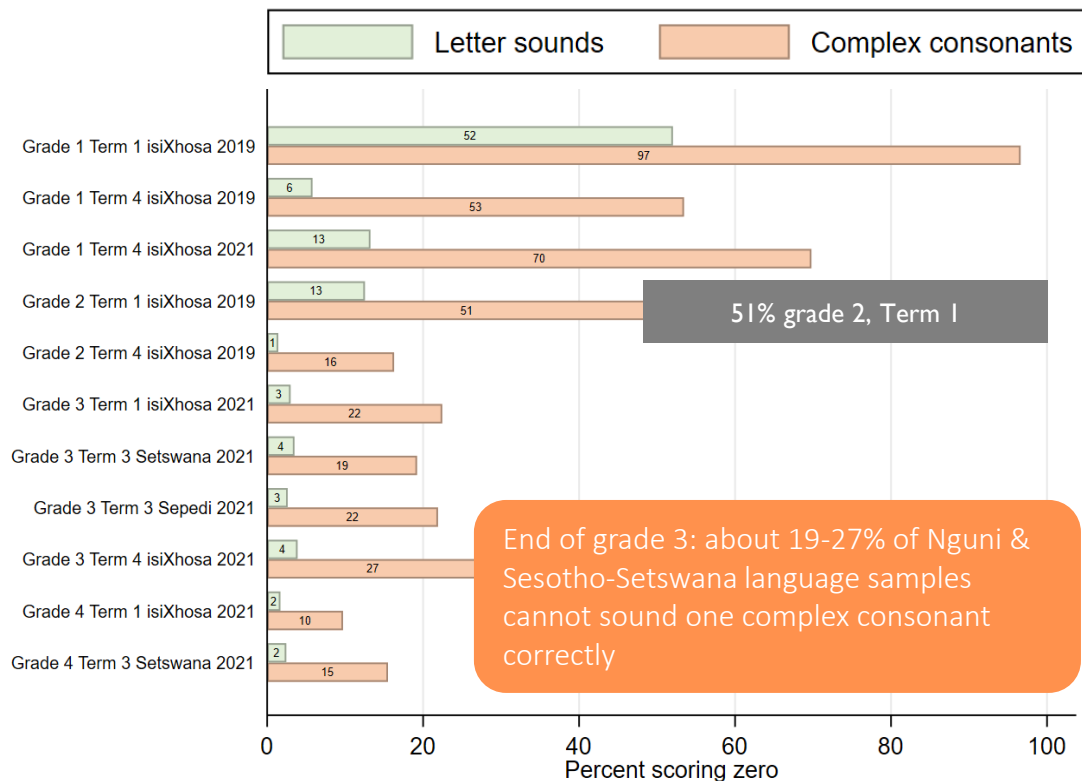
Alphabetic Knowledge – Complex Consonants

Fig: Percentage of learners unable to sound one letter or one complex consonant correctly

Starting from grade 1 African home language texts all include complex consonants

Nguni languages:
digraphs like *hl*, *dl*, *kh*,
trigraphs like *tsh*, and
blends like *ndl*, *gcw*, *ntsw*

Setswana:
digraphs *ng*, *ts*
trigraphs *tsh*, and
blends *ngw*, *tshw*



Oral Reading Fluency (ORF) Levels

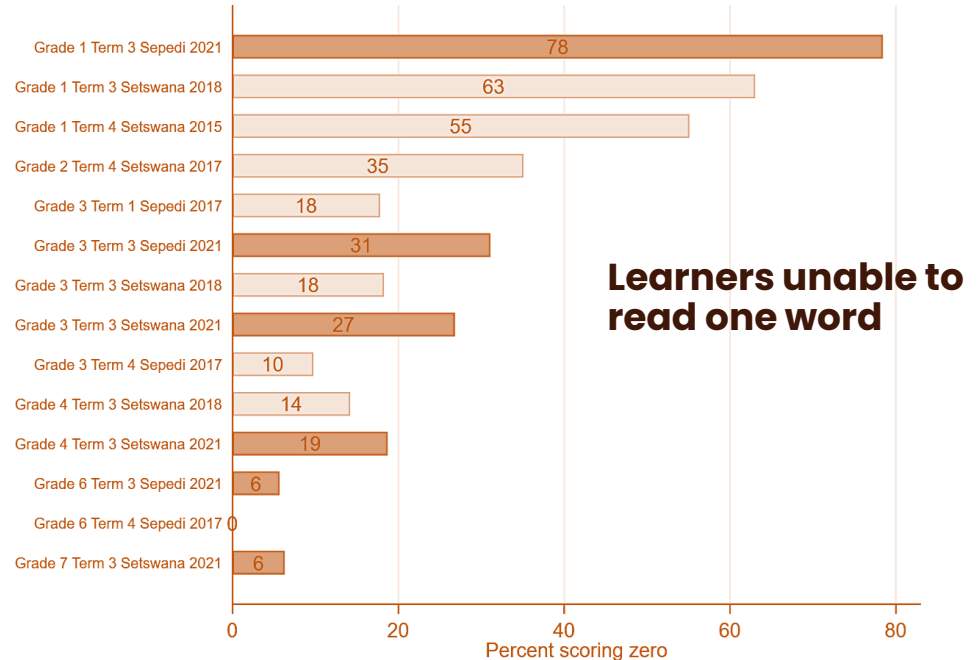
ORF → measure of overall reading competence; a 'bridge' between decoding & comprehension skills

(Fuchs et al 2001; Adams 1990; Pikulski & Chard 2005)

By end of grade 1, most should be able to **read a series of short sentences** or a little text on their own, albeit haltingly.

Some grade 1s should start doing this by the second term.

Fig 5: Percentage of learners unable to read one word correctly from a passage in a minute, Sesotho-Setswana languages

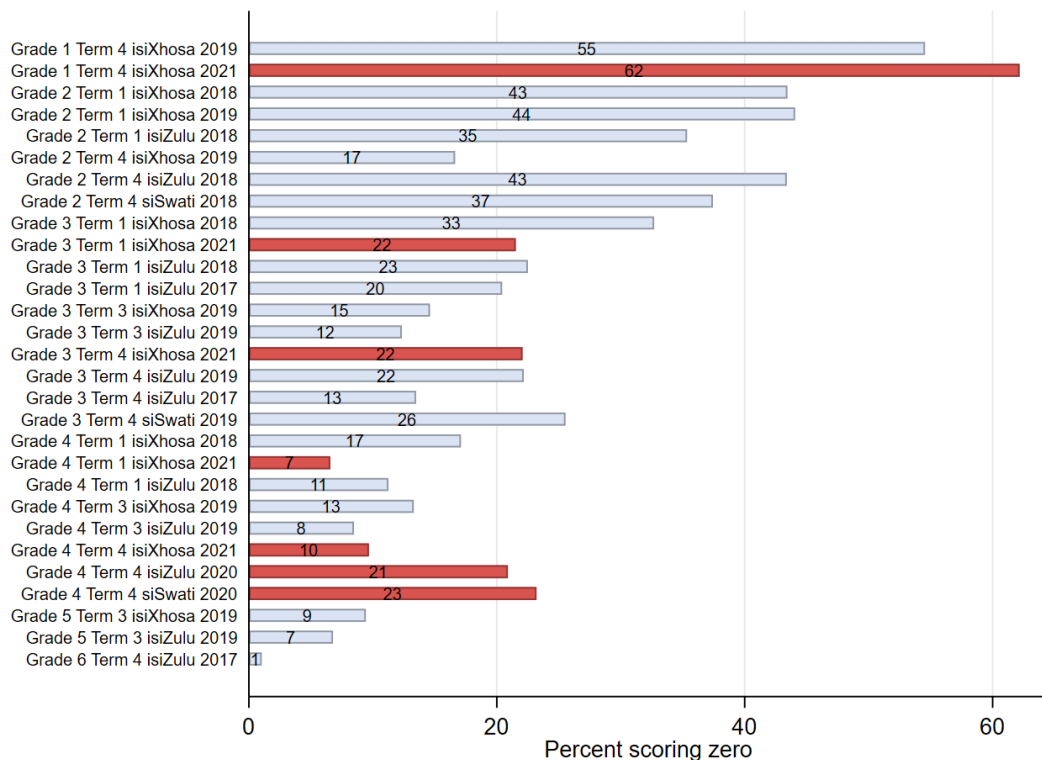


Notes: Own calculations. Data from FW LP and EGRS I. Red bars highlight pandemic affected years.

Oral Reading Fluency (ORF) Levels

FOUNDATIONAL SKILLS IN HOME LANGUAGE READING

Fig 5: Percentage of learners unable to read one word correctly from a passage in a minute, Nguni languages



Not reading one word
(pre-Covid):

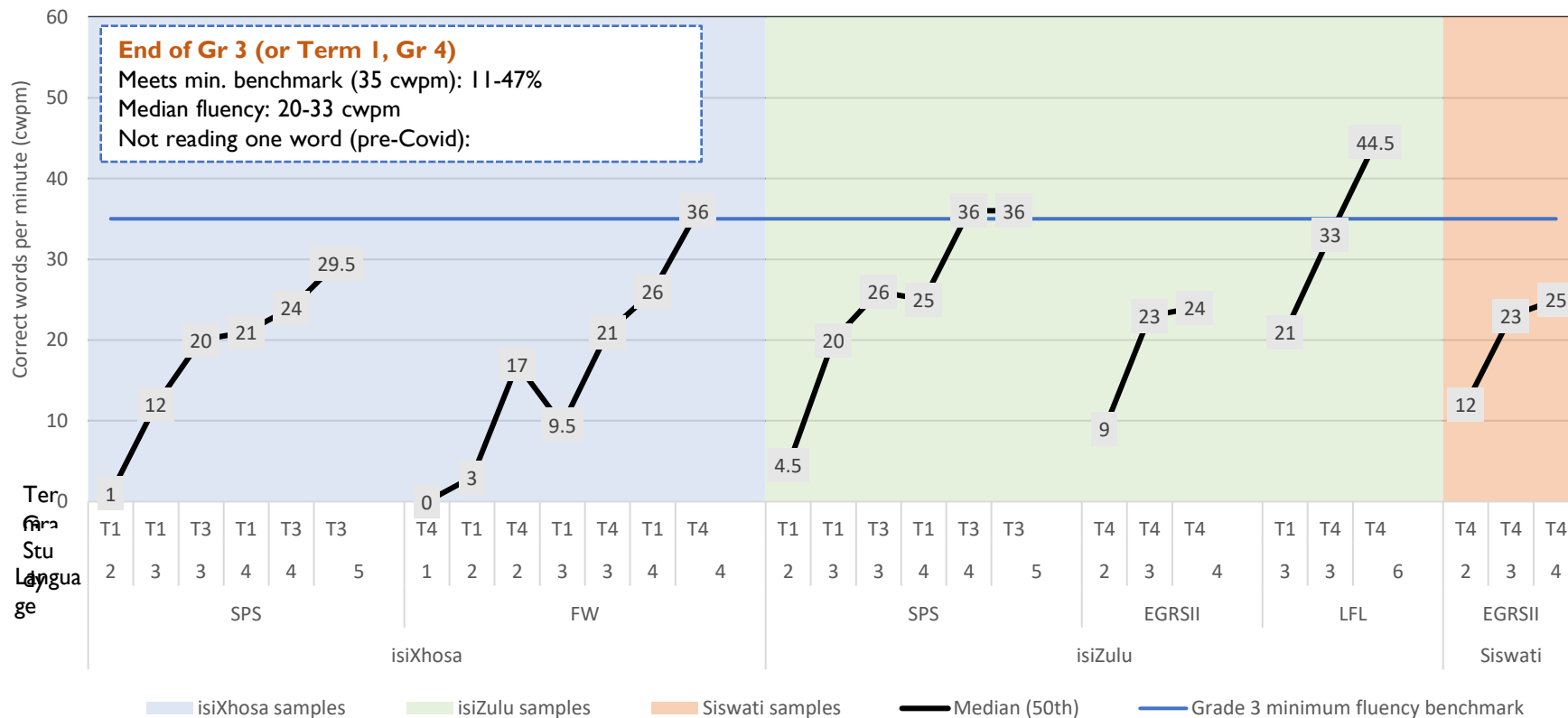
End of Gr 2
(start of Gr 3) **17-43%**

End of Gr 3
(start of Gr4)
11-22%

Oral Reading Fluency (ORF) Levels (NGUNI)

FOUNDATIONAL SKILLS IN HOME LANGUAGE READING

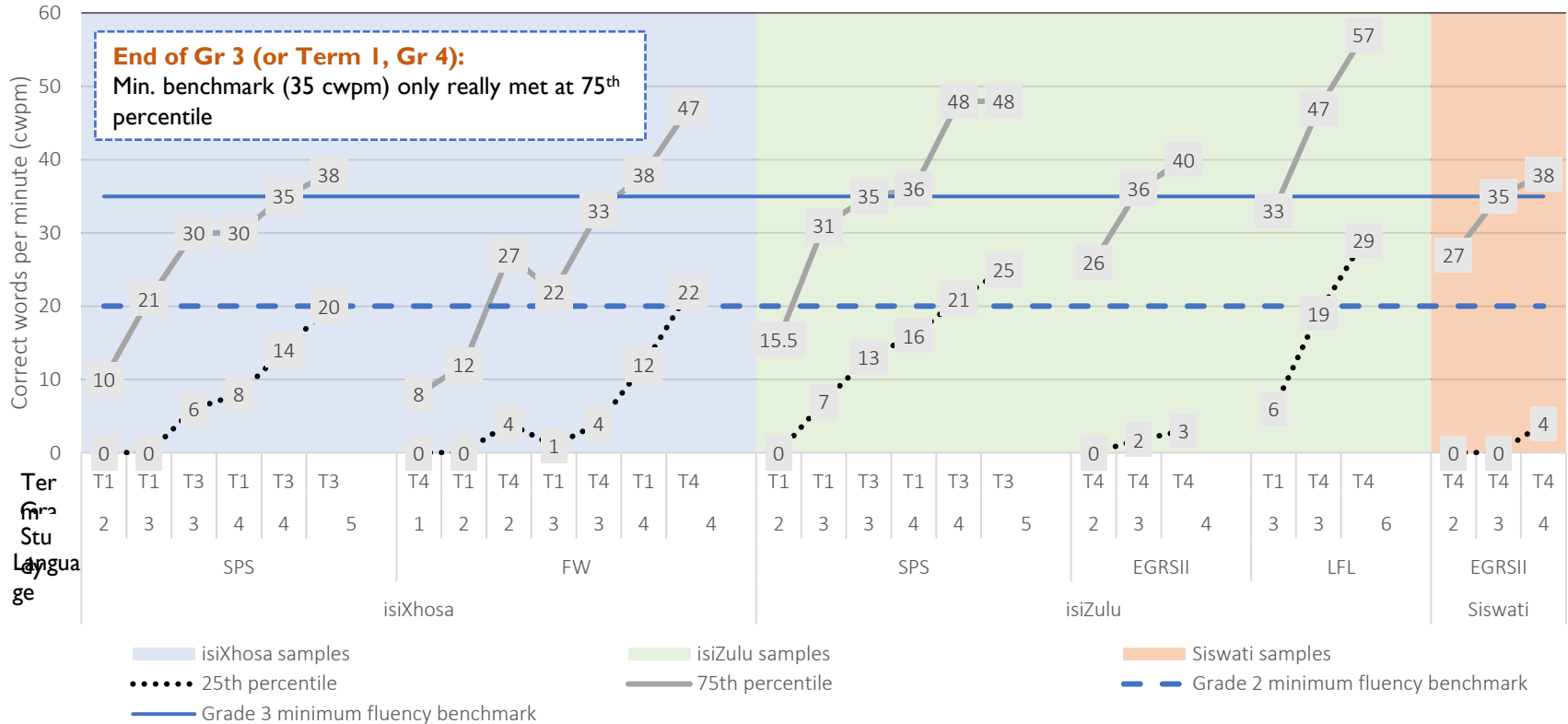
Fig: Oral reading fluency at the 50th (median) percentile, Nguni language learner samples



Oral Reading Fluency (ORF) Levels (NGUNI)

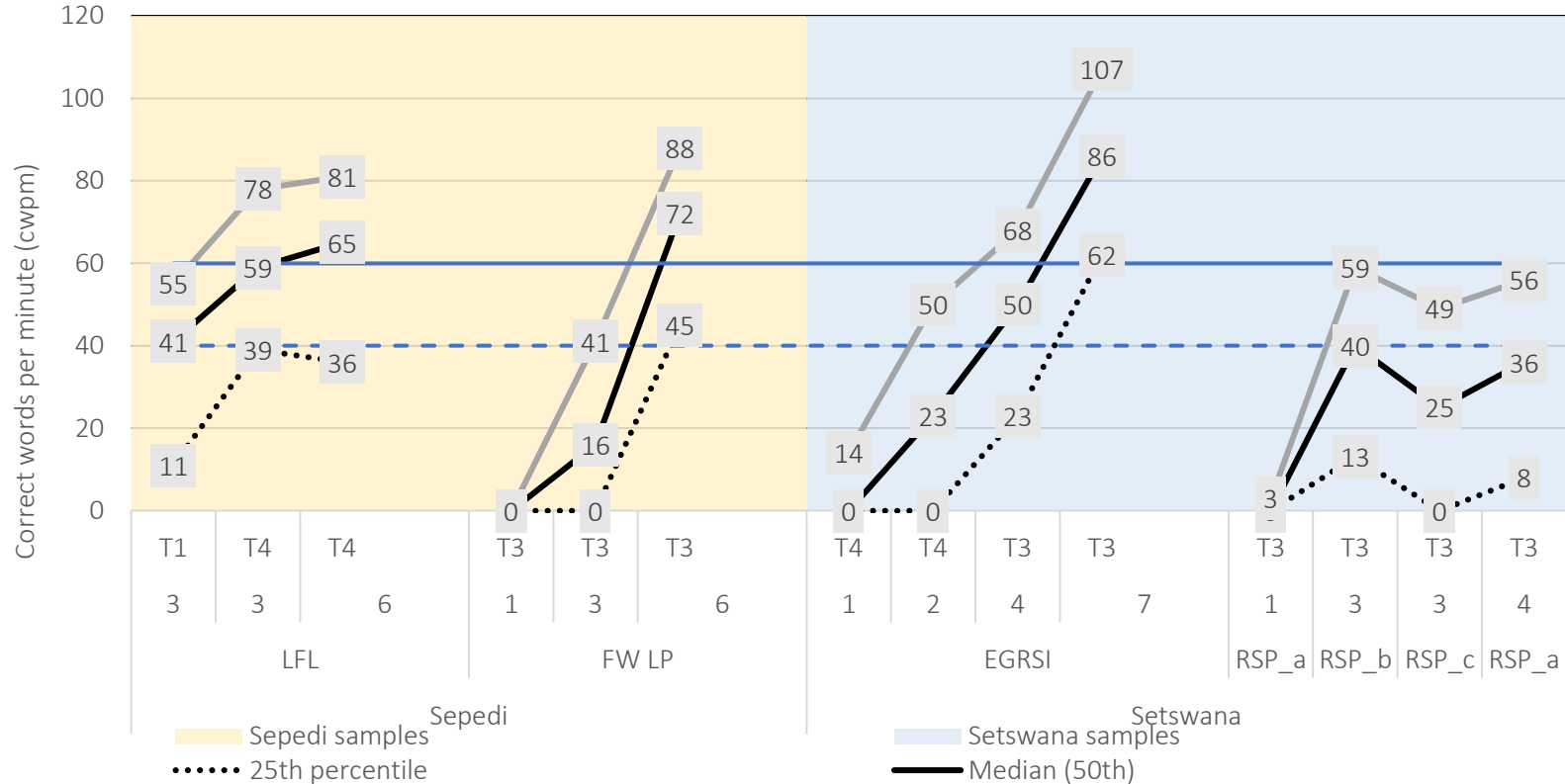
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Fig: Oral reading fluency at the 25th and 75th percentile, Nguni language learner samples



Oral Reading Fluency (ORF) Levels (Sesotho-Setswana)

Fig: Oral reading fluency at the 25th, 50th (median) and 75th percentile, Sesotho-Setswana language learner samples



Oral Reading Fluency (ORF) Levels (Gr 6)

FOUNDATIONAL SKILLS IN HOME LANGUAGE READING

It is very sobering that of the grade 6 samples **35-46% do not meet minimum grade 3 fluency benchmarks** and **7-27% fail to meet grade 2 fluency benchmarks**, especially where the fluency levels reported reflect an upper estimate of proficiency.

(Mohohlwane, Wills, Ardington 2022)



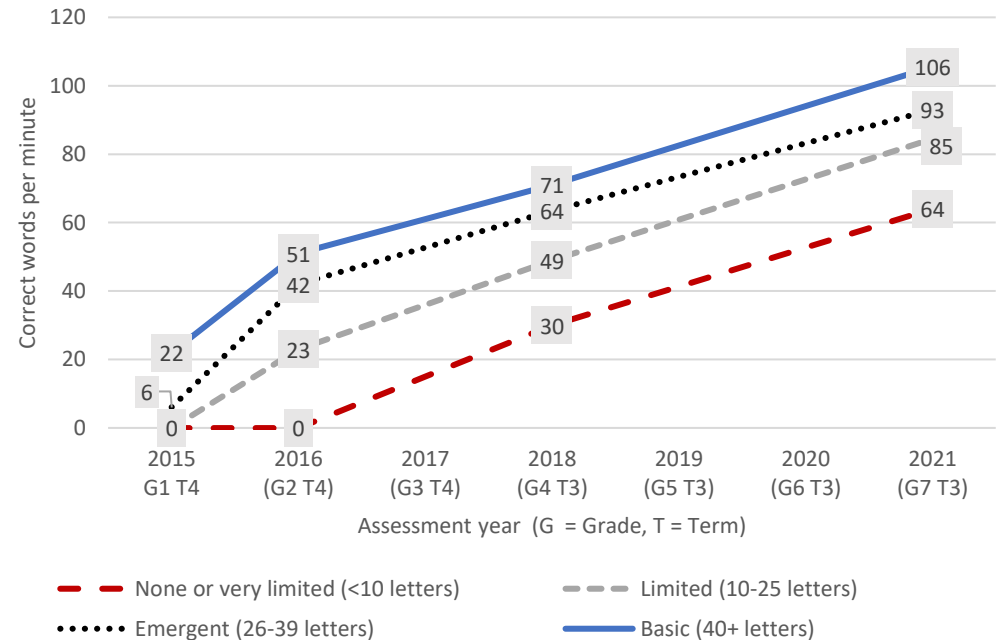
Do Fluency Trajectories Differ Depending On How Well Decoding Skills Are Acquired Early On?

Fluency in alphabetic orthographies is expected to improve into higher primary grades; declining rates from about grade 4 or 5 (Arnesen et al. 2017; Hasbrouck & Tindal 2006)

Development will likely depend on how well basic decoding skills are mastered early on (Good & Jeffersson 1998; Wang et al. 2019)

We examine reading development trajectories from gr1-7 by four categories of end of grade 1 alphabetic knowledge

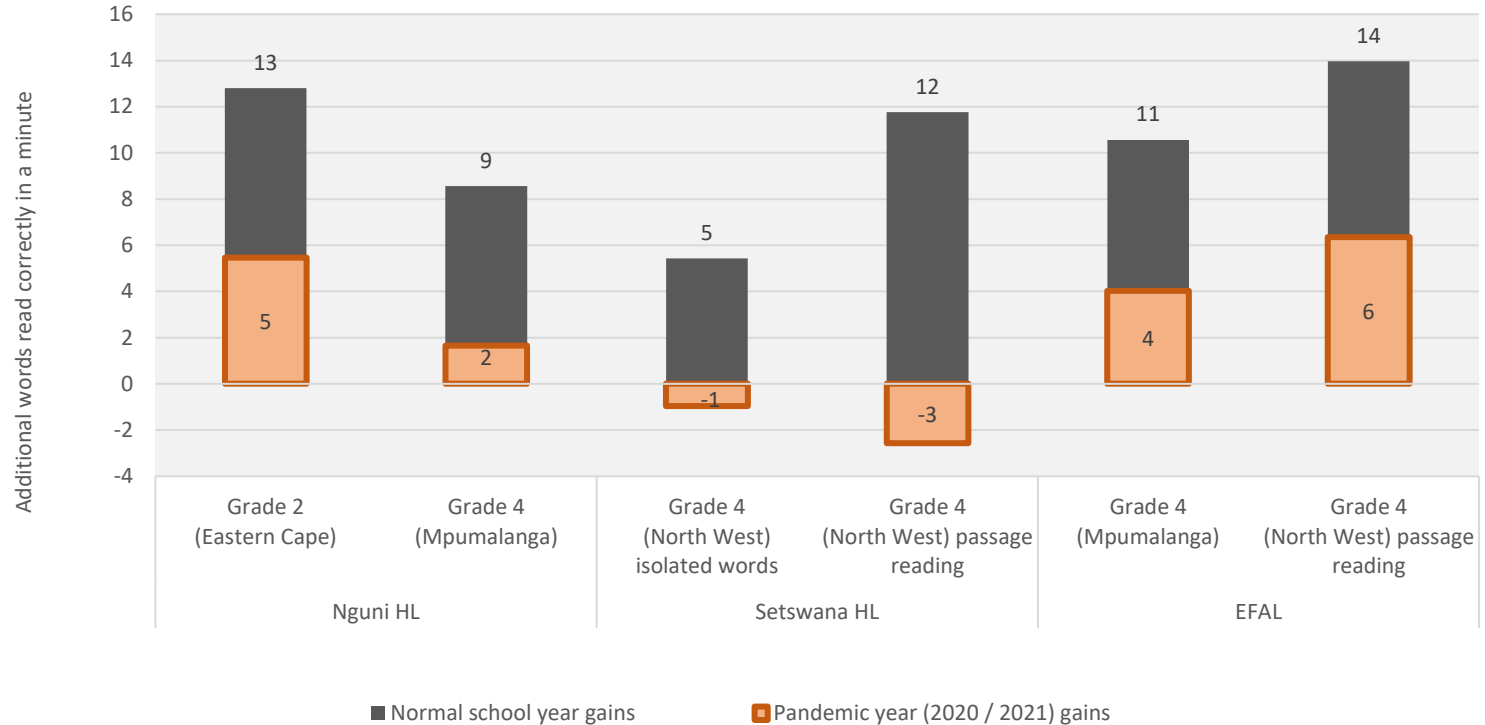
Fig 9: ORF trajectories in Setswana in primary schools for four categories of learners distinguished by grade 1 alphabetic knowledge (average ORF shown)



Notes: Own calculations. Data from EGRS I (waves 2-5). No data was collected in G3T4, G5T3 or G6T3.

Covid Impact On Fluency Trajectories

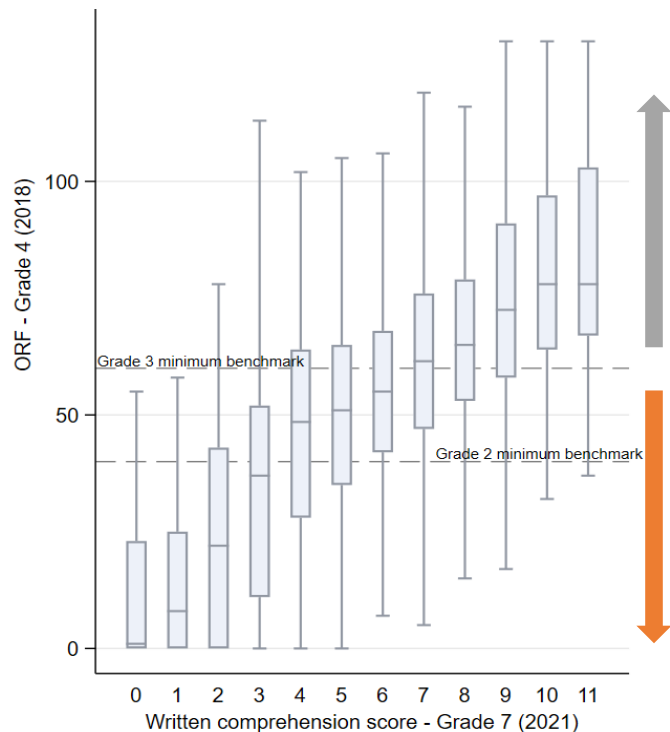
FOUNDATIONAL SKILLS IN HOME LANGUAGE READING



Notes: estimates from Ardington, Wills & Kotze (2021) using Funda Wande (Grade 2), EGRS II and SPS data (Grade 4). Estimates for Grade 4 (North West) are from own calculations using grade 3 and 4 EGRS I and RSP (2018 and 2021) data. All estimates are derived from regressions using school fixed effects and/or difference-in-difference estimation.

HOW DOES Fluency Predict Comprehension?

Fig: Predictive validity of oral reading fluency for comprehension, Setswana language sample



Notes: Own calculations. EGRS I waves 4-5. N = 1971

Meeting early grade minimum fluency benchmarks in Nguni or Sesotho-Setswana languages is predictive of the development of higher order comprehension skills

Meeting a grade 3 minimum fluency benchmark (60 cwpm) by the end of grade 4

almost all successfully tackle a written comprehension task at the end of grade 7.
➔ Learners are prepared for the transition into secondary school

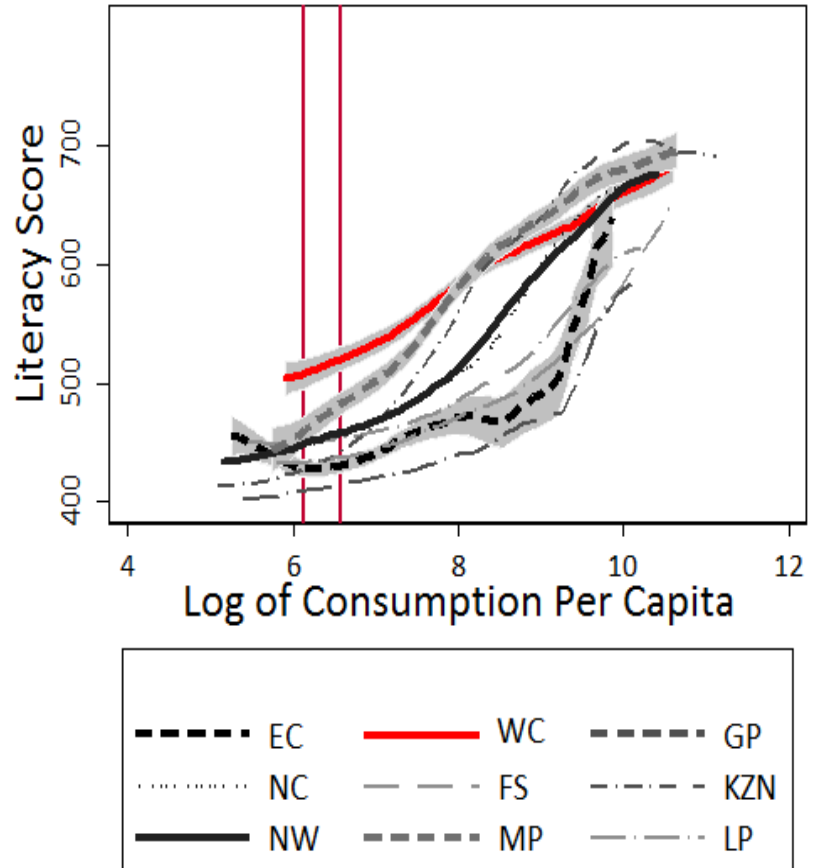
Not meeting a grade 2 minimum fluency benchmark (40cwpm) by the end of grade 4

are unable to comprehend what they are reading by the end of primary school, typically scoring less than 40% in written comprehension

Improvement Is Possible In South Africa

Equally poor children learn more in more functional school systems IN South Africa

FIG: Literacy scores for grade 6 students by student log of per capita consumption, provincial comparisons, SACMEQ 2007



Source: Wills, Shepherd & Kotze (2018)

Summary

Oral language skills under developed at start of school

- Far too many children in under resourced school contexts are starting grade 1 with underdeveloped oral language skills in their home language
- Virtually no knowledge of the code of their home language despite having spent a year in Grade R

Slow & low mastery of letter-sound & complex consonant sequences in Gr1-3

- Evidence that most children in no-fee schools are not receiving effective systematic phonics instruction

Slow fluency development in the Foundation Phase

- Fluency improves into higher primary school grades, but in different samples we find significant proportions of grade 6 learners (35-56%) not yet reading at fluency benchmarks set for the grade 3 level.
- Of particular concern are underdeveloped reading skills among boys.
- Gender gaps in favour of girls at the start of school are persisting or even widening into higher grades.

All of the above have implications for current and future comprehension

- Fluency (in turn predicted by early decoding skills) predicts current and future comprehension.

Thank you



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