Benchmarking Early Grade Reading Skills: EFAL

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Data and approach

Figure E1:

Three research components intersect to establish early grade reading thresholds and benchmarks

Empirical analysis of large scale EGRA-type data

Theory:
Language and reading development

consultation:
Curriculum
requirements,
language
nuances, system
design

Expert





How do we set reading benchmarks?

- The level at which benchmarks are set is determined by data
- Based on exploratory analysis of largest existing early grade reading assessment data for Setswana & FFAI
- Makes no assumptions about the accuracy-speed and fluency-comprehension relationships for Setswana or reading in English as a second language

Sensitive to current realities of learning

Cognisant of curriculum requirements

Grounded in theoretical understanding of reading development & language specific features (supported by language experts)

EFAL: compare data driven local benchmarks to international norms and benchmarks for ESL





Why are EFAL benchmarks needed?

• It is not sufficient to merely establish standards in home language reading. African home language serves as the language of learning and teaching (LOLT) until the third year (or end of the Foundation Phase) in most schools. Then the LOLT switches to English from grade 4 while home language instruction continues.





EFAL Data: Combining Multiple Studies

EGRS I / RSI NW Setswana Story Powered Schools (SPS) KZN, EC isiZulu & isiXhosa

EGRS II MP isiZulu & Siswati Leadership for Literacy (LFL) KZN, GP, LP isiZulu, Sepedi, Xitsonga

Funda Wande LP (FW LP) LP Sepedi About **23,000** unique learners

900 schools (almost all no-fee)

6 provinces





What was the level of EFAL texts used?

• Only narrative texts used (except in grade 7 – informational text)

	Jabu and the dog	How the elephant got its trunk	Unbelievable night
	Text b: Administered to grade 2s & 3s ^a	Text a: Administered to grade 4 learners ^b	Text c: Administered to grade 6-7 learners ^c
Flesh-Kincaid Grade Level	1.7	3.3	2.5
Flesch Reading Ease Score	97.3	87.7	89.8
Flesh Ease Score: Equivalent reading Level	5th grade (Very easy to read)	6th grade (Easy to read)	6th grade (Easy to read)
Dale-Chall Readability Score (replace names in text with "cat") ^d	4th Grade and below (very easy to read)	4th Grade and below (very easy to read)	4th Grade and below (very easy to read)
Average Words per Sentence	7.9	9	7
Average Syllables per Word	1.2	1.3	1.3
Sentences	9	14	29
Words	71	126	203





Approach for EFAL benchmarking

Step 1: Establish EFAL fluency threshold and benchmark

- Data driven (follows same approach as Setswana benchmarking) examining:
 - Reading speed and accuracy
 - Reading accuracy and comprehension

Step 2: Establish grade level associated with threshold and benchmark

- Consider international ESL norms and benchmarks
- Current levels of EFAL performance
- System requirements





STEP 1

Establish fluency thresholds and benchmarks in EFAL





Relationship between speed and accuracy in reading

- Children learning to read in transparent orthographies do so more quickly and achieve greater accuracy more quickly than children learning to read in English (Seymour et al. 2003)
- Accuracy is likely to be achieved later in a second language.
- → 85% used as a signal for developed accuracy in the early grades in EFAL reading, rather than 95%.

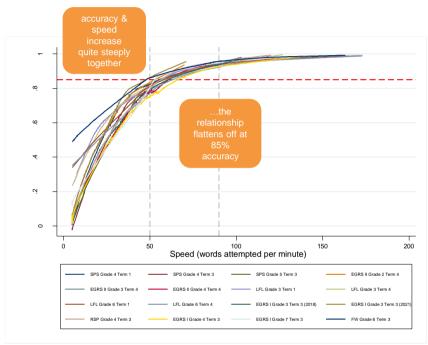
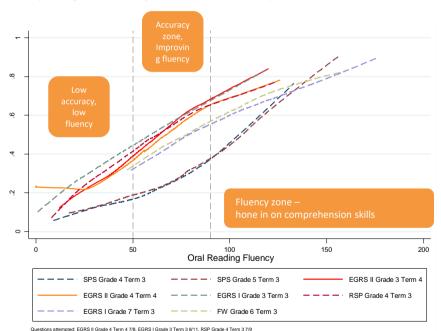


Figure 21: Reading speed and accuracy in EFAL, by sample



Relationship between fluency and comprehension

Figure 24: Relationship between fluency and comprehension for samples completing a sub-set of all comprehension questions, EFAL



Even if learners get all words correct when reading at speeds below 50 words per minute, they are reading too slowly to grasp the meaning of what they read

When learners are getting 50-89 cwpm, comprehension shifts into a development zone → learners correctly answer about 4-6 of every 10 comprehension questions

By the time learners are reading 90 cwpm comprehension has reached much higher levels but comprehension improvements tend to diminish above 90 cwpm





Meeting EFAL threshold of 50 cwpm is predictive of future fluency

Figure 31: Fluency in grade 5, by learners' fluency profile in grade 4, EFAL

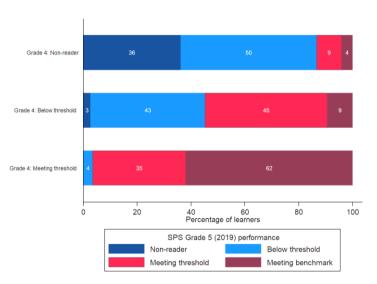
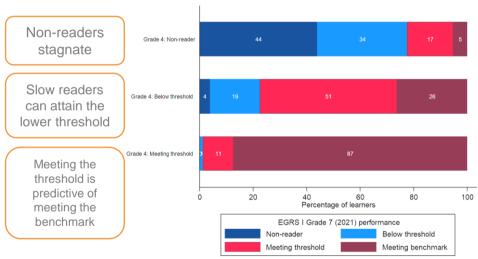


Figure 32: Fluency in grade 7, by learners' fluency profile in grade 4, EFAL







STEP 2

Establish grade level associated with thresholds and benchmarks in EFAL





English Second Language norms from other contexts

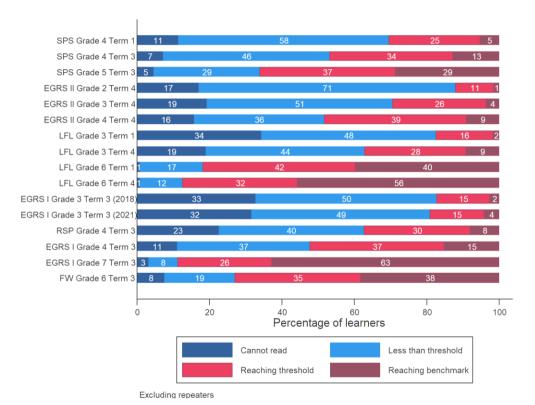
Table 21: English fluency norms from international studies - End of grade median fluency (50^{th} percentile) or in the case of DIBELS the ORF associated with being at negligible or minimum risk of reading failure at the end of each grade

Grade	L1: Hasbrouck & Tindal 50 th	L1: University of Oregon,	L1: University of Oregon,	L2: 70% of H&T	L2: H&T less 25 words	L2: Broward A1	L2: Broward A2	L2: Broward B1
	percentile (H&T) (2017)	Minimal risk	Negligible risk	(Anderson 1999)	(Jimerson et al. 2013)			
1	60	39-75	76	42	35	43	43	46
2	100	94-127	128	70	75	44	52	69
3	112	114-135	136	78	87	49	74	89
4	133	125-158	159	93	108	65	80	103
5	146	137-156	157	102	121	85	89	104
6	146	141-159	160	102	121			
7	151ª	141-163	164	106				





Figure 34: Fluency profiles in EFAL by grade (excluding repeaters)



End of grade 2 or the start of grade 3:

- significant proportions of learners unable to read one word (17-34%)
- few (12% pre-pandemic) meet the threshold (50 cwpm)

By the end of grade 3:

- -19-32% are still unable to read one word in English
- 19-37% reach the threshold (50 cwpm)

By end of grade 5:

29% meet benchmark (90 cwpm)

By end of grade 6:

38-56% meet benchmark (90 cwpm)





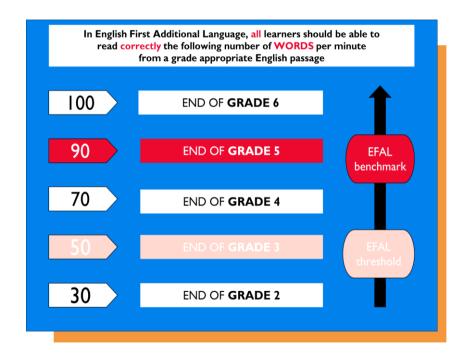
Reading performance in EFAL

Grade level	% able to read one word correctly	Median fluency if non- readers are included in samples	Median fluency if non- readers are excluded from samples	EFAL fluency level to be met by <u>ALL</u> learners
2	21	11	20	30+
3	19-34	13-34	27-45	50+
4	8-30	21-46	44-50	70+
5	6	62	65	90+
6	1-8	80-97	84-97	100+
7	9	89	95	





Minimum grade-specific oral reading fluency (ORF) levels in EFAL



Roughly grade appropriate ESL 50th percentile norm by international standards.

Fluency level necessary to be able to reach higher levels of comprehension. But necessary but not sufficient to support improvements in comprehension.

A steppingstone to reaching the benchmark of 90 cwpm by the end of grade 5. 20 cwpm is typical expected improvement over a year.

At this minimum threshold, learners start to derive a limited amount of meaning from what they are reading. Predictive of meeting benchmark in grade 5.

A development threshold → far too low to support comprehension yet predictive of whether learners can reach a fluency threshold of 50 cwpm a year later.





Concluding remarks

- While these grade specific, minimum EFAL fluency levels may be criticised as being too low BUT these are not desired levels of learner performance at the 50th or 75th percentile. Rather they reflect minimum fluency levels to be attained by all learners by the end of each grade.
- As reading improves into the future, these minimum suggested EFAL fluency levels should be shifted upwards.
- In schools or classes where EFAL reading development occurs faster, teachers and parents can refer to available international English fluency norms as guides (minimal risk of reading failure at the grade 3 level is 114-135 cwpm (University of Oregon, 2021:123))
- Reaching these contextually relevant minimum EFAL fluency levels should not be viewed in isolation of reaching home language reading thresholds and benchmarks. The development of decoding skills in African home language reading provides an important foundation for learning to read in English.





Thank you



