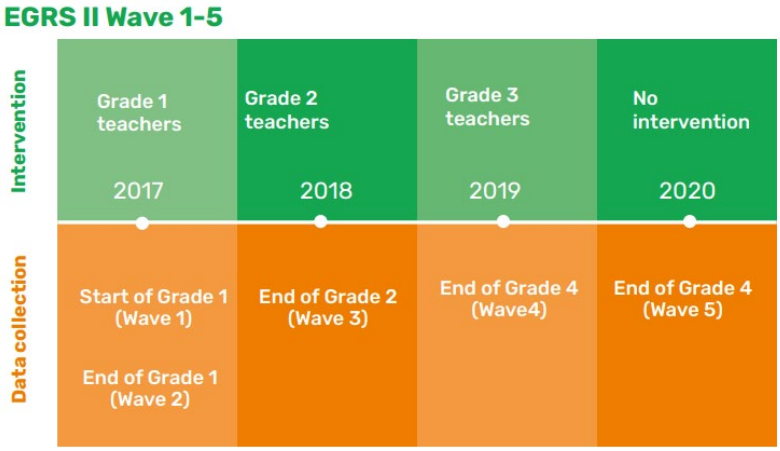
User guide for the EGRS II – Wave 1-5 panel

Data was collected in South Africa in two districts in the Mpumalanga province as a part of the Second Early Grade Reading Study (EGRS II) evaluation. The randomised controlled trial (RCT) testing an LTSM and coaching intervention was run by the Department of Basic Education in Partnership with the Mpumalanga Department of Education and the University of the Witwatersrand, funded by USAID.

This user guide is only for the retest and vocabulary assessment completed as part of the wave 4 (Grade 3) dataset. The full panel data is available for Wave 1-5 with a User guide. However, a brief overview of the original evaluation and experimentation design is provided for context here.

Experimental design – Intervention and full evaluation

Two interventions were tested as a part of this RCT. Intervention 1 was LTMS+ paper-based lesson plans and in-person coaching, whilst Intervention 2 was LTSM+ digital lesson plans on tablets and virtual coaching. In total 180 schools were a part of the evaluation, with 80 schools in the control group and 50 in each of the treatment arms. At each school, 20 learners were selected to be tested. In some schools, fewer than 20 learners were included in the baseline sample if there were fewer than 20 children in the grade or due to other issues relating to fieldwork or data capturing and matching[1].



More information about the EGRS II evaluation can be obtained from the following website:

- Early Grade Reading Study (education.gov.za)

Two papers that provide detail on the process followed in designing the Vocabulary tests:

Schaefer, M., Mohohlwane, N., & Wilsenach, C. (2023). Examining the generalisability of the simple view of reading comprehension for emergent bilinguals. *Infant and Child Development*, e2487. https://doi.org/10.1002/icd.2487

Wilsenach, C., & Schaefer, M. (2022). Development and initial validation of productive vocabulary tests for isiZulu, Siswati and English in South Africa. *Language Testing*, *39*(4), 567–592. https://doi.org/10.1177/02655322211063785

[1] Some examples of possible issues include, learners that were not able to be matched back to the learner identification data (linking file) or running out of time at the school to complete all of the assessments.

Vocabulary and retest data

In Wave 4 at the end of Year 3 (27 Oct -15 Nov 2019), a total of 2 684 learners were assessed in the oral and written learners' assessments.
A sub-sample of 360 learners was drawn for the vocabulary and re-testing assessment. In the first sampling stage, 60 schools were randomly selected, with two schools from each treatment arm within each of the ten strata. This approach ensured that the two main home languages (isiZulu and Siswati) were proportionally represented. Six learners were selected within each school with two from the top, middle and bottom of the distribution, with another six selected as replacement learners. The core sample of learners was thus 360, however, enumerators were encouraged to test additional children if time allowed.

Vocabulary and retest assessments

The retest was very similar in structure and content to the original assessment that took place as part of the main Wave 4 data collection.

Table 1: Learner Assessment tasks in the various waves of data collection

		Year 3 (Wave 4 / End of Grade 3)			
		Main assessment		Prod. Vocab & Retest	
Skill	**Construct**	**HL**	**EFAL**	**HL**	**EFAL**
Language comp.	Receptive Vocabulary				
	Expressive Vocabulary		6	Voc. HL	Voc. Eng.
	Listening comprehension		7		
	Receptive proficiency				
Decoding	Phonological working mem.				
	Phonological awareness				
	Rapid Letter naming	1		RT 1	
	Letter sound recognition	2			
	Word reading fluency		4	RT 2	
	Sentence reading fluency				
	Oral Reading Fluency (ORF)	3.1	5.1	RT 3.1	RT 4.1
	Reading comprehension	3.2	5.2	RT 3.2	RT 4.2
	Written comprehension	8	9		
Writing & spelling	Writing a CVC word				
	Writing two words				
	Receptive vocabulary				
Visual & Cognitive	Visual perception				
	Rapid Object Naming				

A summary table of the key statistics is provided in Table 3. For tasks with multiple measures (eg. ORF at 60s, at 180s and accuracy in %) only the key measure is reported in the table.

The naming of the outcome variables shown in the table and used in the dataset follows a consistent convention of the following form w[Wave]_VS_[Test]_[Lan]_[Type], where:

- Wave – Indicates that data collection Wave
- Test – either retest (rt) or productive vocabulary test (vocab)
- Lan – Indicates whether the task was testing home language (H) or EFAL (E) or Mathematics (M).
- Type – This is shortened for to indicate the construct or general skill being tested

- Measure (Optional) – is used where additional information is needed to differentiate within the task, usually because there are numerous outcome measures included for a single task (eg. letter sound knowledge in 30 seconds or per minute)
- Item (Optional) – This gives the number of the item in the assessment

Data collection - Vocabulary

Enumerators were sent to the 60 schools to assess the 6 selected learners. However, they were instructed to continue assessing other learners (from the larger sample) at the school if time allowed, once the assessments with selected learners had been completed. In total 338 learners were tested.

Table 2: Showing the numbers of learners tested at the 60 schools

Number of learners tested at the school	Number of schools	% of schools
3	2	3.33
4	7	11.67
5	12	20.00
6	34	56.67
7	3	5.00
9	1	1.67
10	1	1.67
Total	60	100.00

Using the retest and vocabulary dataset

The Vocabulary data is available as a separate dataset that can be merged into the full panel of wave 1-5 using the unique_id (or unique_id and school_id) as the identifier. This will allow the user to obtain school, household and additional learners' information.

Unique identifiers

- **Enumerator id**: There were only 5 enumerators that participated in the data collection of the vocab and retest data, and these enumerators were not part of the group of enumerators that conducted the learner assessments as a part of the main Wave 4 data collection. The enumerator id numbers run from 4100 to 4104.

- **Teacher id**: The anonymised teacher id's were created from the same list used for the Wave 4 data in the Wave 1-5 dataset. There are a total of 138 unique teachers in this dataset.

Table 3: Table for HL and EFAL Measures from the Productive Vocabulary and Retest Learners Assessment

Renamed variable	HL/EFAL	Voc./Retest	Wave	N	Mean	SD	Min	Max	p10	p25	p50	p75	p90
Productive Vocabulary													
w4_VS_vocab_hl_voc	HL	VOC	W4	338	45.89	10.05	7.0	70.0	32.0	40.0	46.0	54.0	58.0
w4_VS_vocab_efal_voc	EFAL	VOC	W4	338	25.61	15.67	0.0	79.0	4.0	14.0	25.0	35.0	47.0
Rapid Letter naming													
w4_VS_rt_H_rln_20s_11	HL	RT	W4	338	23.18	10.06	0.0	36.0	8.0	17.0	25.0	32.0	36.0
w4_VS_rt_H_rln_pm_12	HL	RT	W4	338	71.15	32.94	0.0	196.4	24.0	51.0	75.0	96.0	108.0
Word Recognition													
w4_VS_rt_H_wre_60s_21	HL	RT	W4	338	22.46	15.43	0.0	56.0	0.0	7.0	26.0	34.0	41.0
w4_VS_rt_H_wre_pm_22	HL	RT	W4	338	22.50	15.39	0.0	56.0	0.0	7.0	26.0	34.0	41.0
ORF and Comprehension (HL)													
w4_VS_rt_H_orf_60s_3_11	HL	RT	W4	338	24.95	19.50	0.0	58.0	0.0	1.0	27.0	41.0	52.0
w4_VS_rt_H_orf_180s_3_12	HL	RT	W4	338	36.80	24.11	0.0	57.0	0.0	4.0	52.0	55.0	57.0
w4_VS_rt_H_orf_pm_3_13	HL	RT	W4	335	24.29	19.24	0.0	74.0	0.0	1.8	25.3	39.3	50.2
w4_VS_rt_H_orc_3_3	HL	RT	W4	338	2.38	1.87	0.0	5.0	0.0	0.0	3.0	4.0	5.0
ORF and Comprehension (EFAL)													
w4_VS_rt_E_orf_60s_4_11	EFAL	RT	W4	338	30.14	31.79	0.0	126.0	0.0	0.0	20.0	55.0	75.0
w4_VS_rt_E_orf_180s_4_12	EFAL	RT	W4	338	53.63	50.26	0.0	126.0	0.0	0.0	46.5	107.0	119.0
w4_VS_rt_E_orf_pm_4_13	EFAL	RT	W4	338	29.31	30.87	0.0	140.0	0.0	0.0	18.4	53.2	73.5
w4_VS_rt_E_orc_4_2	EFAL	RT	W4	326	1.28	1.57	0.0	5.0	0.0	0.0	1.0	2.0	4.0