



Department of Education
Curriculum Development Division



Applying EGRA in PNG: Lessons learned

SESSION 10 – SCHOOL EFFECTIVENESS AND LEARNING OUTCOMES

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Outline

- i. EGRA as part of the READ PNG project
- ii. Diagnosis
- iii. Intervention
- iv. Results
- v. Lessons learned

EGRA as part of the READ PNG project

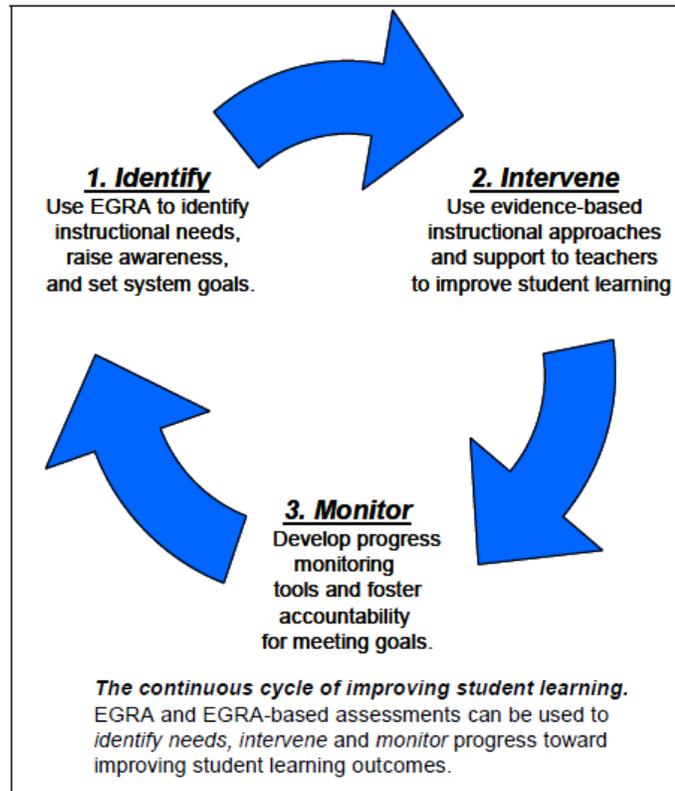
- The READ PNG project was a 4 year project, implemented by the National Department of Education (NDOE), financed by the Global Partnership for Education and supervised by the World Bank.
- *Project development objective:* To promote better teaching and learning of reading skills in elementary and primary education.
- *Context:*
 - the country with the largest linguistic diversity of the world -over 800 languages are spoken in PNG with orthographies developed in about 400 language groups.
 - lack of resources available for elementary and primary grades
 - irregular and inefficient delivery of teaching and learning materials to schools
 - Infrequent and uneven access to in-service training opportunities for teachers on key instructional subjects
 - limited financial and human resources at the provincial and district-level to monitor and support schools nationwide.

READ PNG Project

○ *Project Activities:*

1. Provision of classroom libraries: delivery of classroom libraries (60 titles of supplementary and reference materials) and teacher training on how to use the materials during teaching
 - Target: delivery of at least 18,000 classroom libraries and training to 25,000 primary teachers nationwide and verification of use in a sample of 1,800 classrooms, using classroom observation checklists
 - Result: Nearly 21,000 classroom libraries and training to 25,120 teachers delivered nationwide, providing access to resources to an estimated 783,000 students in grades 3 – 8.
2. Provision of learning kits for elementary grades: delivery of one resource kit per classroom containing small chalkboards, flashcards, beads, dices, pattern blocks, linking cubes, pocket display board, silkscreen printer and a Teacher Guide, plus a selection of wall charts for their classrooms showing grammar, punctuation, weather, health themes, a map of PNG, etc.
 - Target: delivery and verification of at least 15,000 resource kits nationwide
 - Result: 16,368 elementary classrooms (grades EP to E2) received, benefiting 112,000 elementary grade students
3. Provision of vernacular materials to elementary grades: all elementary schools receive a set of bilingual (English/Tok Pisin) elementary readers and selected schools (targeted by languages spoken) received an additional set of vernacular language readers.
 - Target: vernacular readers delivered and in use in 2,500 elementary grade schools
 - Result: 7,461 vernacular readers delivered in 8,443 schools
4. Diagnosis of basic reading levels in 4 provinces in PNG and piloting of at least one reading intervention.

Use of EGRA under READ PNG



- 1. Identify** – 4 diagnostic surveys to identify areas for improvement and raise awareness among teachers and NDOE officials.
- 2. Intervene** – used EGRA results from Madang and WHP to design the “Reading Booster Program” in-service teacher training to improve reading instruction.
- 3. Monitor** – EGRA was used to evaluate average student progress. During monitoring, reduced EGRA-like tools were used to check for implementation fidelity. Other tools included Classroom Observation Snapshot (pedagogy and inventory of resources), Teacher Reflection Journals and “reading checks” of student progress.

EGRA diagnostic surveys

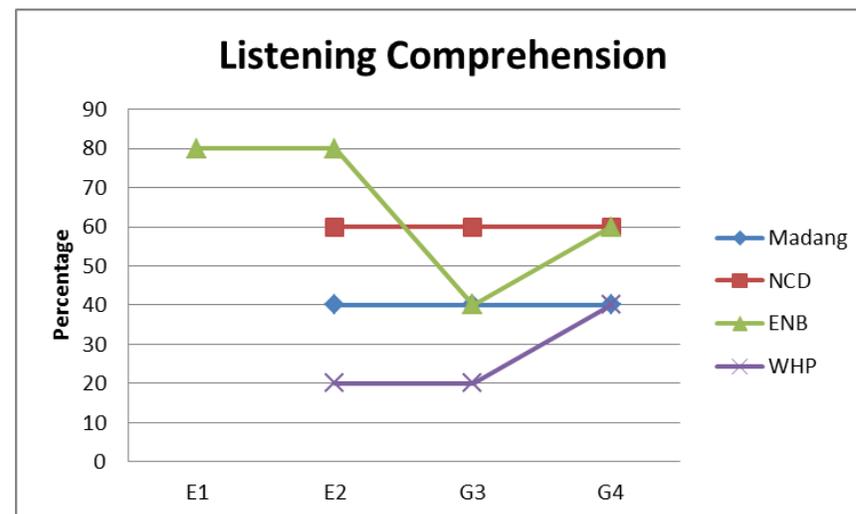
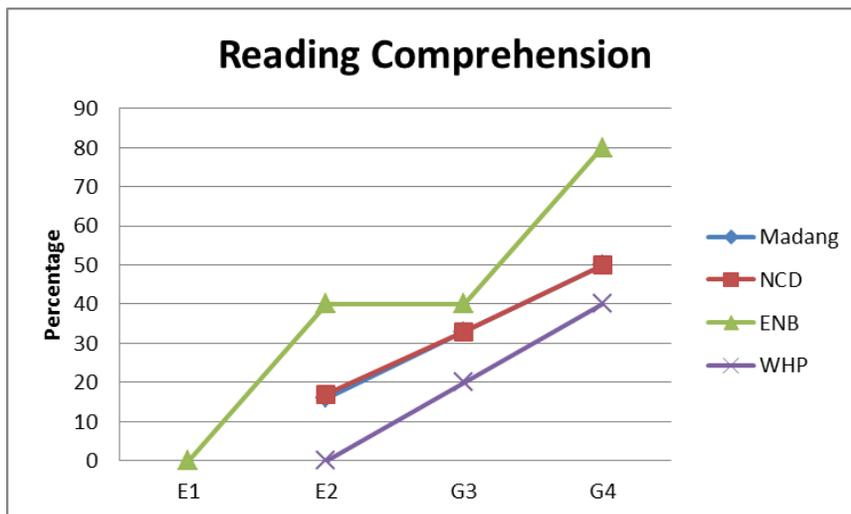
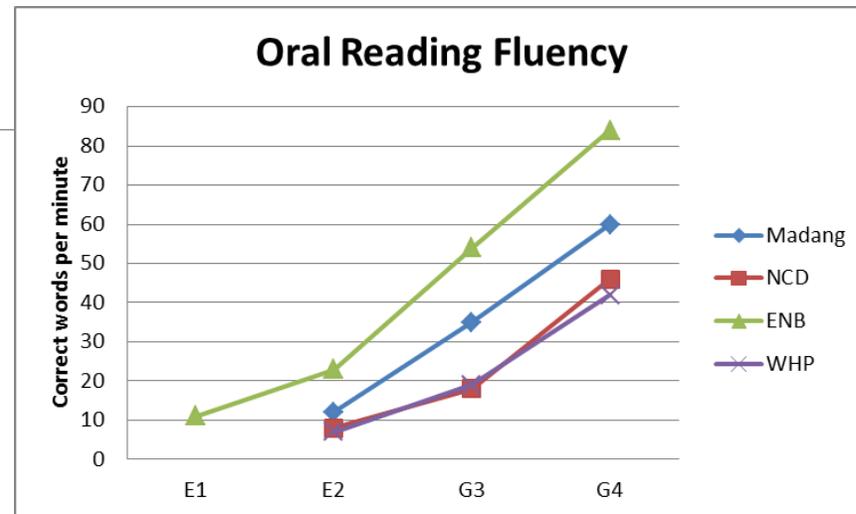
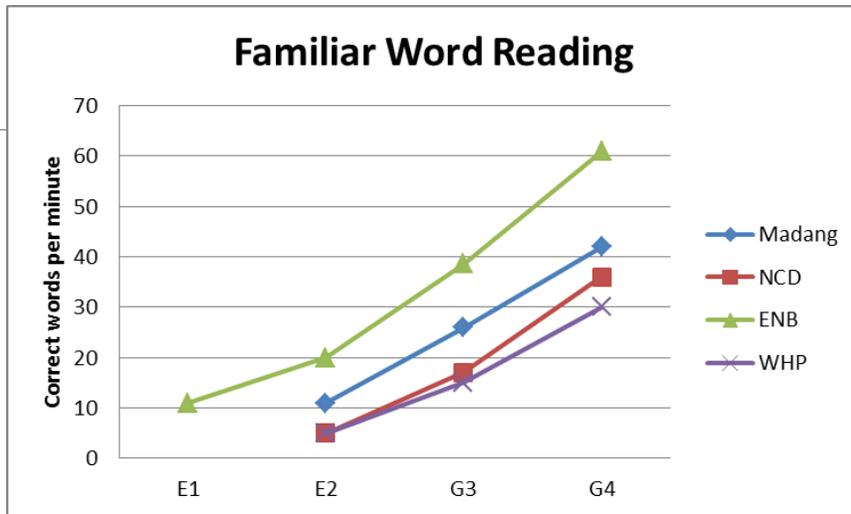
- EGRA test included 7 sections covering automaticity in identifying letters and letter sounds, words and a short 60-word story (oral reading fluency). A similar short story was used for the listening comprehension subtest.
- A short dictation was included.
- Teacher students and NDOE officers were trained to administer the test.
- In addition to the EGRA test, each participating classroom had a classroom observation snapshot administered, which recorded information on the stock of resources and the use of languages during instruction.



Province	Grades tested	Language	Sample size
Madang	Grades 2,3,4	English	1,279
NCD	Grades 2,3,4	English	1,266
East New Britain	Grades 1-4	Grades 1&2 – Kuanua Grades 3&4 - English	1,696
Western Highlands	Grades 2, 3, 4	English	1,323

What is the state of basic literacy in PNG schools?

EGRA scores in basic reading outcomes, 4 provinces (2012-2014)



Main findings from the diagnostic studies

Students in WHP, NCD and Madang are learning but the gains across grades are not enough to develop basic reading and comprehension skills:

- **In terms of the skills tested, students showed serious weaknesses in their knowledge of letters and sounds and struggle to read full words. Students appear to improve in their reading fluency but the gains across grades are slow and no gains in comprehension.**
- **Data from the PNG EGRA surveys shows no evidence that students have an ‘advantage’ from learning to read in English vi-a-vis a language they are familiar with.**

These results can be explained in part by

- **students** characteristics:

- Most students report not using English outside the school/classroom
- Large proportion of students with parents that cannot read/write

- **the language of instruction** in elementary and primary schools:

- WHP, Madang and NCD students do not appear to have an advantage in reading comprehension after being taught in English for about 5 school years.
- ENB students appear to *transfer* some of their reading skills (developed in Kuanua) to English.

- **the teaching and learning activities in the classrooms :**

- Teacher’s language proficiency in English is low and shows serious deficiencies, specially among elementary grades.
- Teachers have little knowledge of the reading process and practical instructional methods to support students develop their reading skills
- Lack of support to teachers to improve their subject and teaching knowledge to become more effective educators

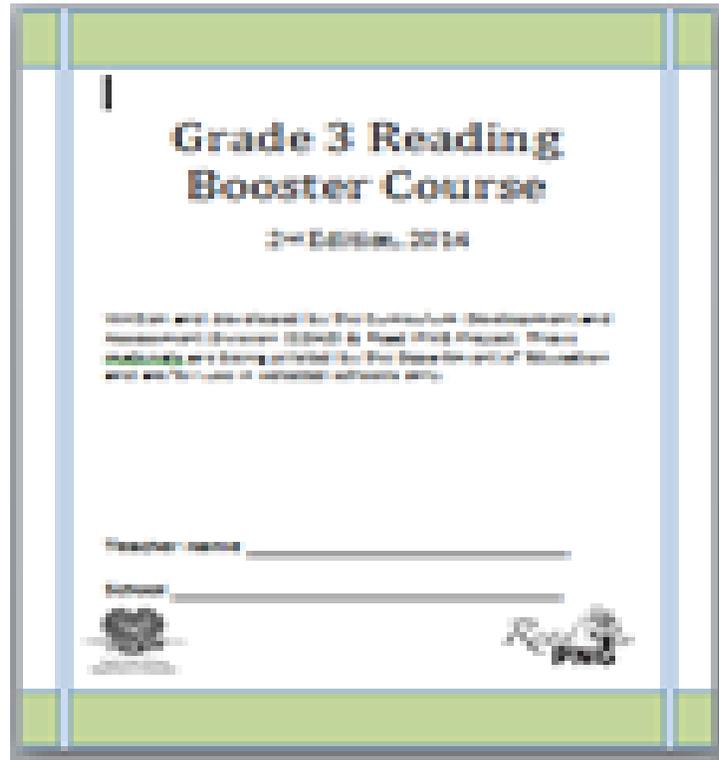
READ PNG reading intervention activity

4. EGRA diagnosis of student reading levels, implementation of remedial intervention and evaluation of impact:
 - **Diagnostics:** 4 provincial-level diagnostic surveys were carried out in the National Capital District (Southern Region), Madang (Momase Region), Western Highlands Province (Highlands Region) and East New Britain (Islands Region).
 - **Original intervention plan:**
 - ENB - reading development program for elementary grades in mother tongue and transition to English (oral language development in elementary)
 - NCD -reading development in tok pisin and transition to English (oral language development in elementary)
 - **Actual Intervention:** English reading booster program comprising a comprehensive package of **teaching and learning materials** (daily structured lessons for teachers student and readers book with daily stories aligned with the teacher guide); **intensive, hands-on training to teachers** on how to carry out the structured daily lessons; **reading coaching to teachers** to improve their reading instruction and collect monitoring data; and **evaluation** of student reading outcomes.
 - Target: Grade 3 teachers in sample of schools (control and treatment) in Madang and Western Highlands Province

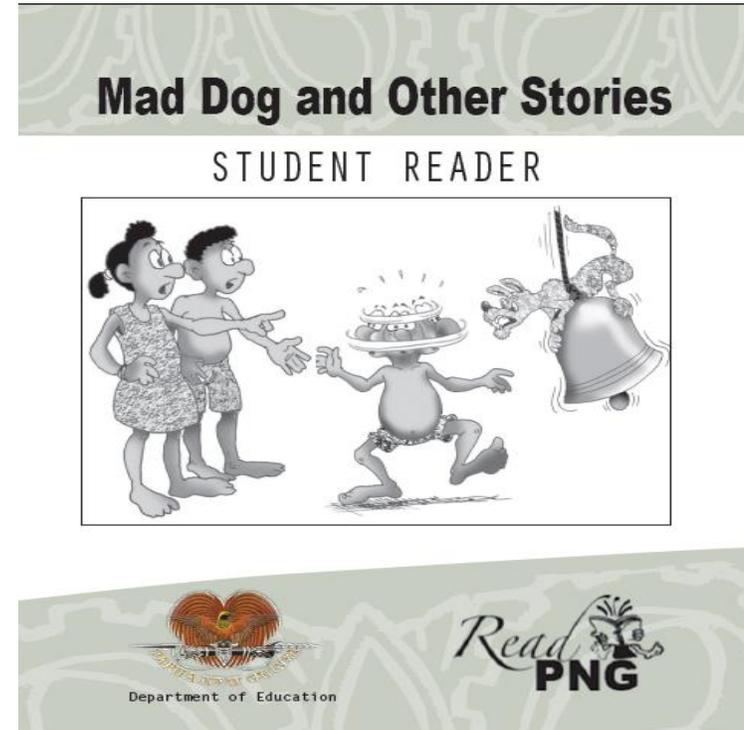
Intervention: Reading Booster

- A 'reading booster' – a short remedial reading program designed to improve grade 3 students' basic reading skills through a change in teacher methodology.
- English-language intervention (given change in language of instruction policy) aimed at (i) reducing the share of non-readers and readers with no comprehension at the end of Grade 3; (ii) explore if the approach could improve the proportion of Grade 3 fluent readers with comprehension.
- Treatment and control design using the schools in the respective EGRA diagnosis.
- EGRA was used to monitor students' reading skills at end of program (November 2013 in Madang and November 2014 in WHP)

The resources given to treatment group teachers....



Structured lesson plans



Sets of student readers

Treatment school teachers were given training on reading instruction...

PEER TEACHING



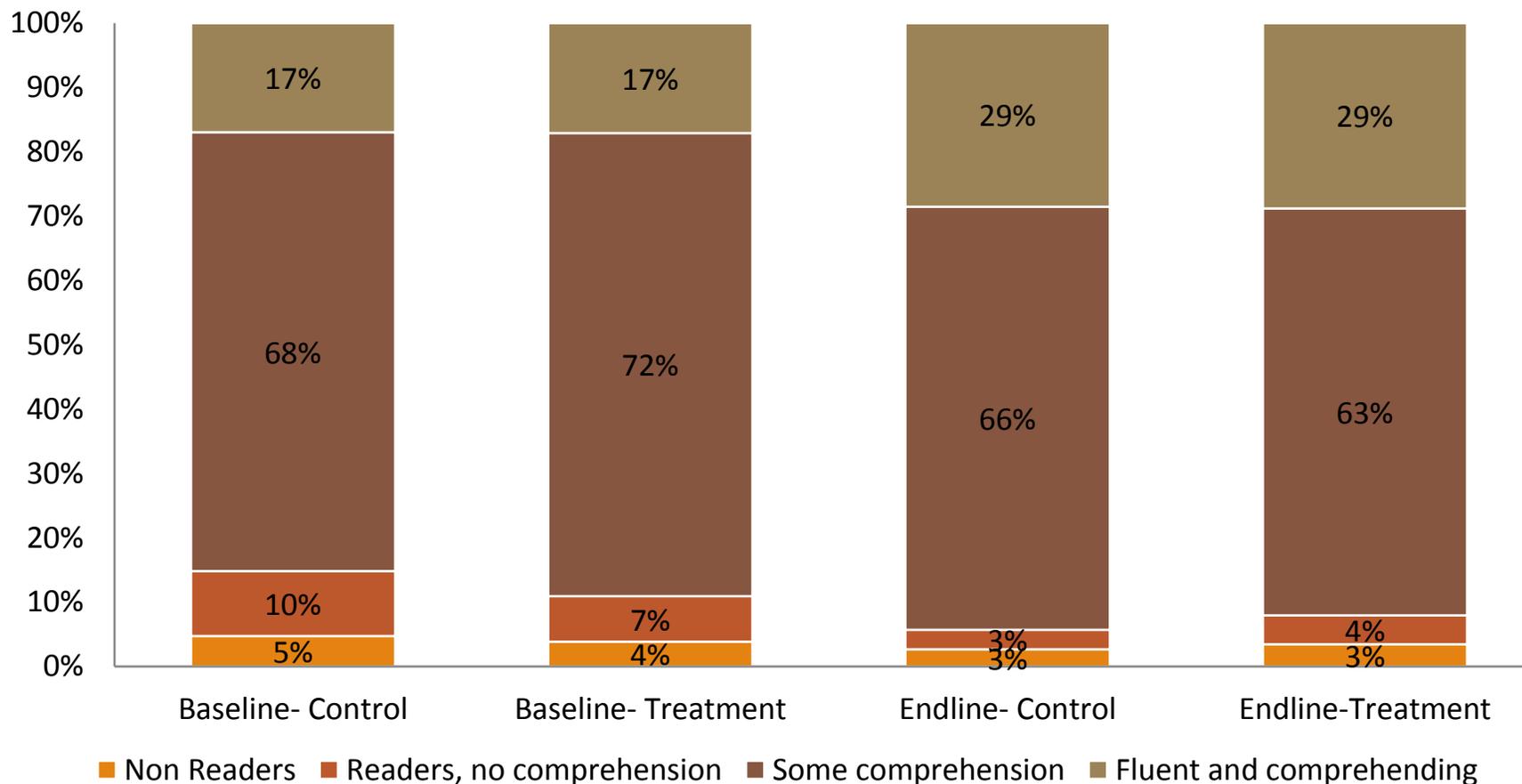
PEER TEACHING





Students engaged in their reading.

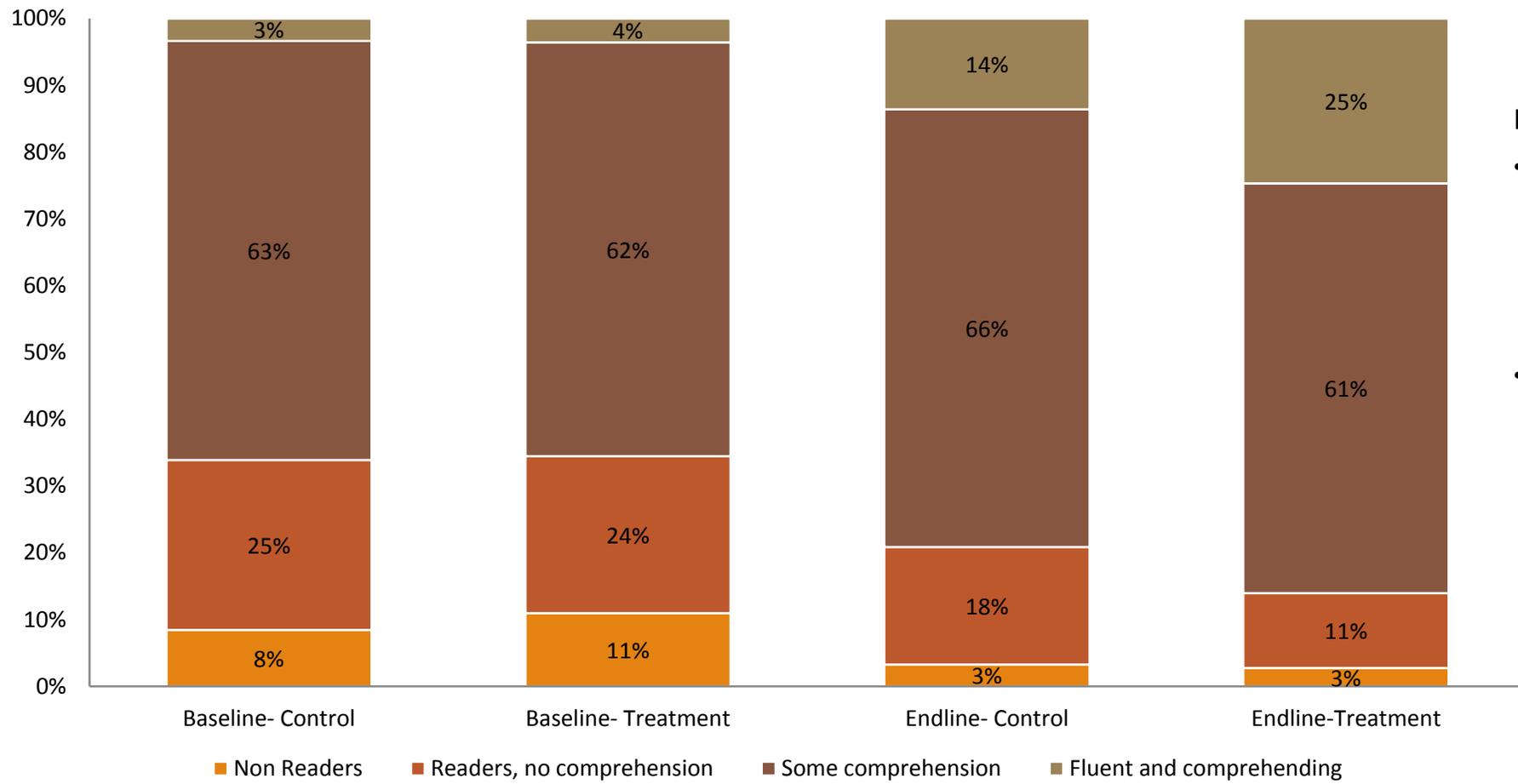
RB Madang results – proportion of students by level of proficiency



Three lessons:

- System constraints and unexpected events: travel bans, complicated clearances to disburse funding for implementation, etc.
- Better monitoring of other programs offered in the province
- Better monitoring of implementation fidelity

RB WHP results - proportion of students by level of proficiency



In 7 months:

- There is a notable decrease in the proportion of students considered non-readers and readers with no comprehension (“decoders”).
- There is a significant increase in the proportion of students considered fluent readers with comprehension.

Final assessment statistics and program impact, by sub-test (WESTERN HIGHLANDS)

EGRA Sub-test	School type	Baseline			Endline			Impact					
		N	Mean	SD	N	Mean	SD	% change from baseline to endline	% difference, treatment v. control	Program effect	Pooled Standard deviation	Size effect	Treatment less control Effect Size
Letter name knowledge	Treatment	227	67	26	489	83	26	24%	5%	3.08	26.73	0.60	0.05
	Control	224	70	22	466	83	23	18%			23.45	0.55	
Initial sound identification	Treatment	227	43%	36%	489	81%	21%	87%	77%	0.33	0.31	1.21	1.09
	Control	224	43%	37%	466	47%	38%	10%			0.38	0.12	
Letter sound knowledge	Treatment	227	23	18	489	53	22	134%	128%	28.72	24.92	1.21	1.14
	Control	224	24	20	466	25	22	6%			21.74	0.07	
Familiar word reading	Treatment	227	17	12	489	35	22	106%	34%	6.40	21.31	0.85	0.13
	Control	224	16	11	466	28	17	72%			16.24	0.72	
Invented word reading	Treatment	227	12	9	489	21	14	71%	33%	3.88	13.54	0.65	0.22
	Control	224	13	10	466	18	12	38%			11.32	0.43	
Oral reading fluency	Treatment	227	23	17	489	46	27	102%	25%	6.73	27.05	0.85	0.10
	Control	224	21	16	466	37	22	77%			21.81	0.75	
Reading comprehension	Treatment	227	23%	23%	489	44%	30%	93%	17%	0.06	0.30	0.71	0.14
	Control	224	20%	20%	466	36%	28%	75%			0.27	0.57	
Listening comprehension	Treatment	227	25%	23%	489	33%	27%	32%	24%	0.06	0.27	0.31	0.23
	Control	224	24%	22%	466	25%	26%	8%			0.25	0.07	
Dictation	Treatment	227	58%	23%	489	70%	20%	20%	-1%	0.00	0.22	0.54	-0.02
	Control	224	55%	22%	466	67%	20%	22%			0.21	0.56	

Notes:

% change from baseline to endline (Mean endline score- mean baseline score)/mean baseline score

% difference treatment vs control % change from baseline to endline(treatment) - % change from baseline to endline (control)

Note: ES 0.0 – 0.15 = developmental effect; 0.15-0.30 – teacher effect; 0.30 – 0.40 = average; 0.50+ = desired.

RB Lessons learned

- Resources are necessary but not sufficient: teacher's *knowledge* of what reading development is and the *skills* to teach it efficiently are **essential**.
- Structured lesson plans useful to make key components in **reading development visible and feasible to teach**: scope and sequence of skills laid out in a daily lesson.
- Teacher training to improve instruction should be clear, allow for **enough practice and sufficient follow-up support** to ensure teachers learn and adapt the new knowledge to their context.
- Monitoring and evaluation does not equal inspection: regular, interim information about what happens in the **classroom** (e.g. time on task, teaching skills) is essential to understand **why and when** teaching works.
- NDOE had the opportunity to deliver new teaching and learning strategies and activities to help “close the loop” of information about what happens in the classroom: classroom observations, reading coaching, measuring oral reading fluency and comprehension, teaching of phonemic awareness, etc.
- For NDOE, a focus on **quality** must involve a **measure** of quality:
 - ***Can students read fluently with comprehension? Measures of oral reading fluency and comprehension***



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Tenk yu tru! / Thanks a lot!

