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Tusome pilot remedial reading program: Successes and Challenges for Scaling a Program to support struggling readers

Jessica Mejía

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Pilot Study Information

Research Questions

1. What improvement was seen in learner outcomes?
2. How well was the program implemented?
3. What perceptions did implementers have of the program design?



Sample:

Grade 3 students

Treatment 1 (School based)

- 12 counties 97 schools
- 1966 learners
- 174 Grade 1-3 teachers
- 78 Senior Teachers
- 90 Head Teacher
- 15 QASOs

Treatment 2 (Community based)

- 20 counties 96 learning centers
- 1976 learners
- 160 teachers
- 11 mentors (CSOs and QASOs)
- 83 Head Teachers

Control Schools

- 1233 learners

Assessment

- Skills: Letter sound and word reading
- Simple, short
- ASER like: start with harder skill
- Word reading based on word families in the curriculum

Word Assessment Learner Word Reading Page BASELINE

Example			
sat			
mat	fun	star	bag
rub	shop	let	toy
jog	cat	take	crab
clap	snack	hand	both
		rope	sink

Learner Letter Sounds Page BASELINE

Example					
z					
f	n	m	b	q	r
k	c	g	e	p	w
u	h	j	o	a	x
d	y	s	v	t	z
i	l				

Grouping and Progress Monitoring

Groups based on letter sound knowledge:

- 0-5
- 6-10
- 11-19
- More than 19 letters (start on unit 7)
- No more than 15 students in a group

Progress Monitoring after 2 days of lessons for each unit

- 80% of student success – move to next unit
- Less than 80% success continue with unit

Regrouping:

- Every 2 weeks teachers review decide if students need to be

moved up

Annex C: Letter Sound Tracker

Unit

1

2

3

4

5

6

7

8

No.

Learner Name

m

a

t

e

s

L

i

p

f

n

h

o

b

r

g

u

c

d

w

k

j

L

ll

ss

ck

a-e

i-e

o-e

u-e

1

2

3

4

5

6

Scope and sequence

Aligned to the curriculum:

- Used same letter sound order in the curriculum
- Included texts from lower grade textbook for ease of lesson planning

Table of letter sounds, words and texts to be used in the lessons

Unit	Letters	Words	Text tile	Book	Page
1	m	at, am mat	Mat Met Tam	Grade 1 PE	38
	a				
	t				
2	e	is, it, in, set, sit, sat, sin	Sam and Lisa	Grade 1 PE	46
	s	let, lit			
	L	met, mat, mit			
	i	Tim			
3	p	lap, lip, pat, pet, pit, pin	The Sun is Hot	Grade 1 PE	53
	f	fat, fit, fin			
	n	net, nap			
	h	ten, tap, tin hat, hit, hip, hen			
4	o	pot, not, hot, hop, mop	Rob and Rose	Grade 1 PE	63
	b	bat, bet, Ben, bin,			
	r	rat, rip, ran, rib, rob,			
5	g	get, got, gap, bag, beg, big	Sam's Cap Falls	Grade 1 PE	76
	u	bug, gut, run, fun, sun, nut, rug			
	c	can, cat, cup, car, cap, cot, cab, cop			
	d	dot, dad, dug, dig, pad, mad, sad, lid, bad, bed, led, dip, nod, lid, red, rod			
6	w	wet, wig, win, web			

Lessons


Week of structured lesson plans

- 4 days focused on letter sounds and word reading
- 1 day focused on short text and comprehension

Activities:

- Introduction followed by practice
- Provide opportunities for all students to have repeated practice
- Practice activities are games that require repetition of target sounds and words
- Require only manila paper to play games

Lesson Plan Day 1

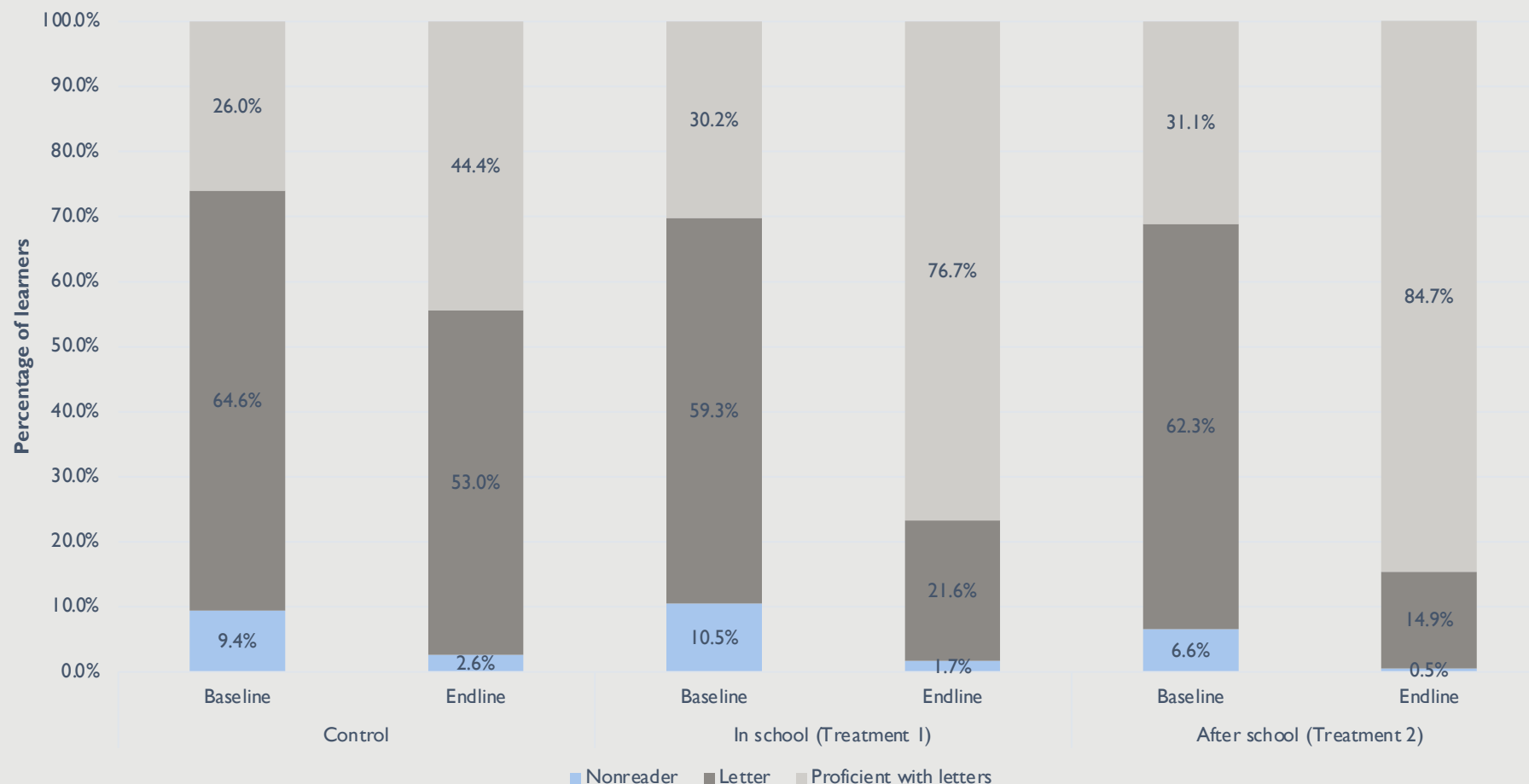
		Activity Instructions	Materials
Letter sounds	Introduction Letter name and sound 5 mins	<p>Learning Outcome: Identify target letter names and sounds</p> <ol style="list-style-type: none"> 1. Put the letters on the board/pocket chart or hold the letter cards. 2. Point to or show one letter at a time. (Show small letter on day 1 and capital letter on day 2) "The name of this letter is _ . This is the small/capital letter _ . The sound is / _ / . 3. Show the letter card. Say the letter and sound with the learner: What is the name of this letter? (_) What is the sound? (/ _ /) 4. The Learner says the name and sound: What is the name of this letter? (_) What is the sound? (/ _ /) 5. Repeat with other letters in the unit. 6. Shuffle cards and ask the learners to say the letter names and sounds quickly like a race then move to the next letter and learner. Continue several times until time is up. 	Letter cards or Pocket chart Chalk Black board
	Practice Memory 10 mins	<p>Learning Outcome: Find the most matching letter sound cards.</p> <ol style="list-style-type: none"> 1. Learners can play in pairs, small groups or whole group if necessary. Make sure ALL learners say the letter sounds each time a learner takes a turn. 2. Use the target letter sounds and up to 10 previously taught letter sounds. 3. Show learners the letter cards one at a time and ask them to say the sound for each. 4. Place the letter cards facing down on the table in 2 or 3 rows in random order. 5. Learners will take turns turning over 2 letter sound cards while everyone says the sounds. If the cards match the learner will keep the matching cards. If the cards do not match turn the letter cards face down in the same place. 6. Repeat the same until all the cards are finished. 7. Learners count their pairs and declare the one with the most pairs the winner. 8. Learners can say the sound of each pair. 9. If there is time shuffle the cards and play again. 	 <p>Letter cards (at least 2 sets)</p>
Word reading	Introduction Blending 5 minutes	<p>Learning Outcome: Read simple words made of letters learned. (Use sample words from the page with table of letters for each unit)</p> <ol style="list-style-type: none"> 1. Display the word _ _ on the board, floor, pocket chart, manilla papers or flipchart, etc 2. Read the word one letter sound at a time then say the whole word. Sweep a finger under each letter sound as it is pronounced. "The sounds are: / _ /, / _ / _ / . I join the sounds together. The word is _ _ _ _ ." 3. Teachers and learners read each sound and then the whole word together. Sweep finger under each letter sound. 4. Learners say each sound and then read the whole word. Sweep finger under each letter sound. 5. Repeat the steps with at last 2-3 words per letter sound in the unit until the time is over. 6. If there is time have learners write 3 target words saying the sound of each letter as they write. 	Letter cards or Pocket chart, Chalk board, floor
	Practice Chance 10 minutes	<p>Learning Outcome: Reading correctly as many words as possible in the grid.</p> <ol style="list-style-type: none"> 1. Divide learners into groups of 4. 2. Let each group draw a 3X3 grid 3. Have learners fill the grid with words that learned in the current unit and if there is space words from previous units. 4. Teacher demonstrates how to play the game. 5. Ask learners to take turns in tossing a dice, paper ball, counter etc. into the grid. 6. The learners say the sounds and reads the word in the grid where the object falls. 7. Learners repeat this until each learner in the group gets a chance to play the game. 8. For every word read correctly the group gives one clap. 	Manila paper, chalk, counter, dice, paper ball

Findings



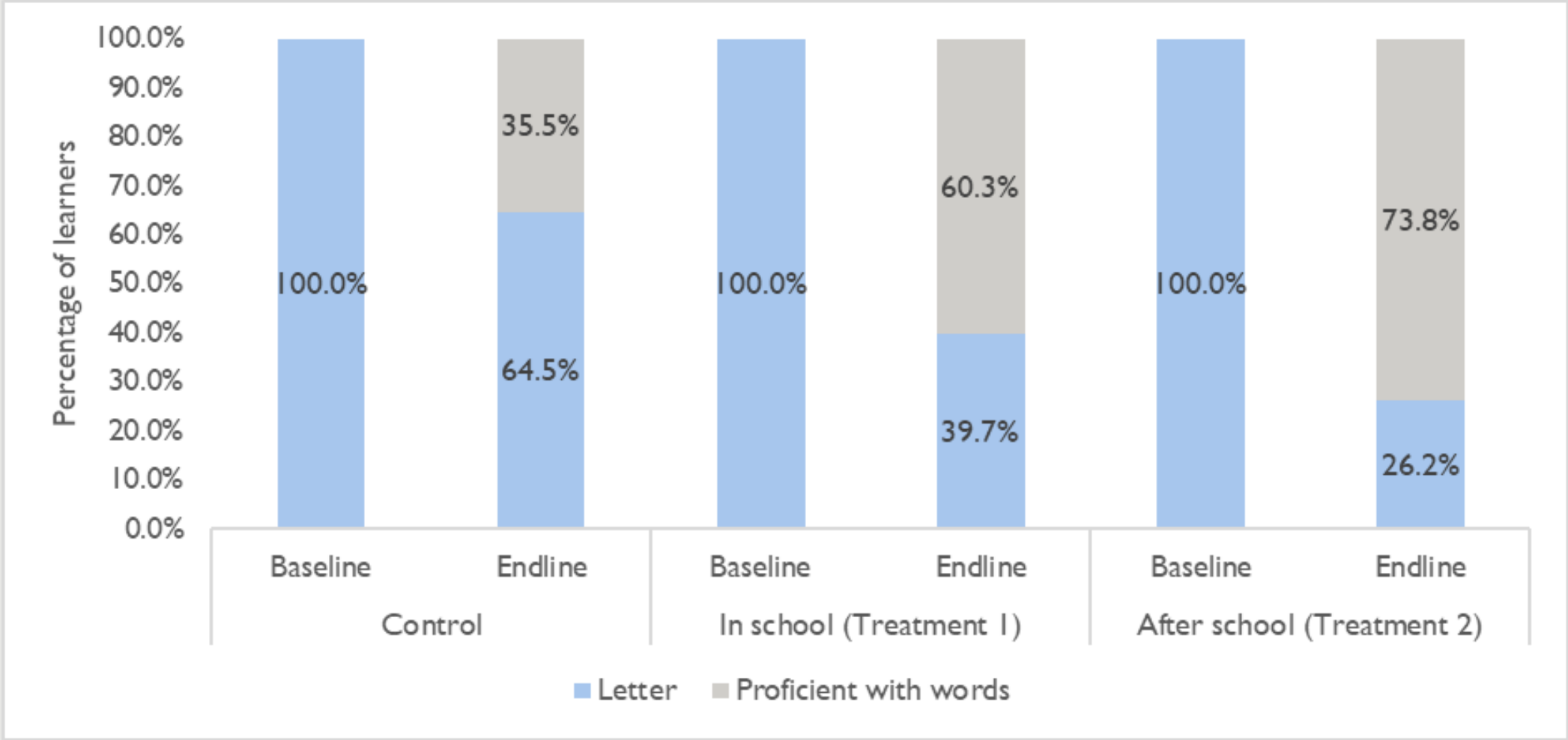
Research Question 1: How much did learners improve overall?

Changes in learners' letter-sound knowledge: Control program compared to in-school program (Treatment 1) and after-school program (Treatment 2)



Research Question 1: How much did learners improve overall?

Comparison of learners' word-reading proficiency at baseline and at endline: Control, in school (Treatment 1), and after school Treatment 2



Research Question 1: How much did learners improve overall?

Effect sizes and difference-in-differences estimates for changes in learners' letter-sound knowledge

Group	Baseline	Endline	Baseline-to-endline gain	Difference in differences	p-value	Effect size
Control	13.9	16.7	2.8			
Treatment 1	14	21.3	7.3	4.5	<.001	0.587
Treatment 2	14.3	22.6	8.3	5.5	<.001	0.734

Effect sizes and difference-in-differences estimates for changes in learners' word-reading proficiency

Group	Baseline	Endline	Baseline-to-endline gain	Difference in differences	p-value	Effect size
Control	6.7	10.1	3.4			
Treatment 1	6.8	13.7	6.9	3.5	<.001	0.555
Treatment 2	7.8	15.5	7.7	4.3	<.001	0.680

Research Question 2: How well was the program implemented?

Percentages of teachers who were able to implement general elements of the program

Program element	Treatment 1 (school based)	Treatment 2 (community based)
Teacher knows what to teach at the time	89.7%	95.2%
Teacher is prepared:		
Well prepared	48.3%	38.5%
Prepared	44.8%	52.9%
Not prepared	6.9%	8.7%
Learners were able to perform the activities	86.2%	90.4%
Learners have the materials needed	96.6%	86.5%
Letter tracker was filled up to the letters for the lesson observed	68.3%	87.5%

Research Question 2: How well was the program implemented?

Percentage of teachers who implemented 80% of the steps of each activity correctly

Activity	Treatment 1 (school based)	Treatment 2 (community based)	Overall
Go Fish	78.0%	44.7%	70.4%
Bingo	82.5%	68.6%	80.0%
Road Race	92.5%	80.6%	91.1%
Memory	80.9%	71.3%	79.2%
Chance	89.2%	65.7%	84.5%
Musical Letters	83.7%	66.3%	82.7%
Word Shake	83.6%	70.4%	82.4%
Letter Chart	81.8%	70.8%	79.2%
Vocabulary	77.2%	52.4%	72.6%
Comprehension	84.6%	40.8%	77.3%

Research Question 3: Instructional Activities

“The lessons would be so interesting, and you find the kids redoing them when you are not there and showing others.” – Treatment 2 Teacher

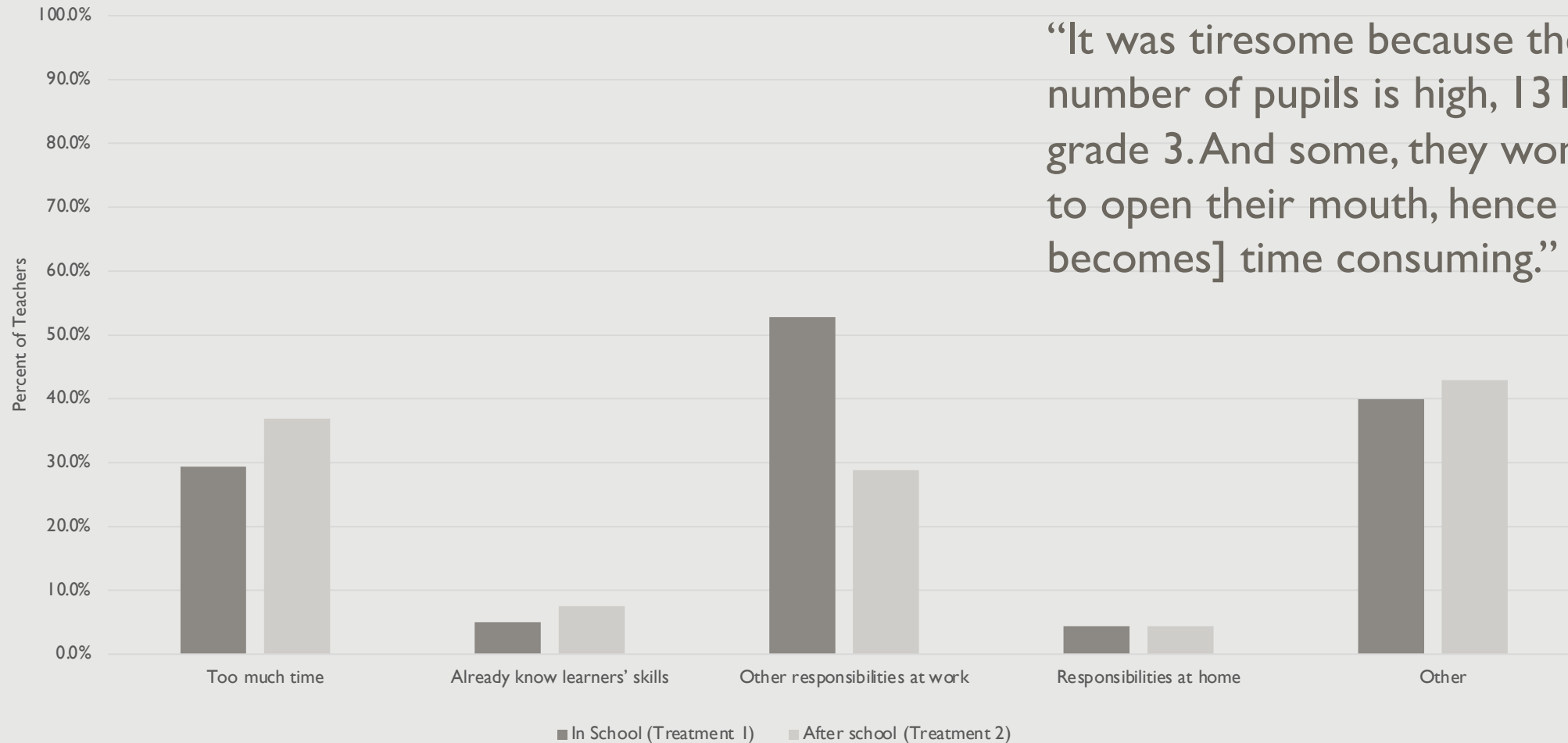
“The instructions also helped the learners to progress from one level to the other in terms of reading and comprehension abilities. Learners were able to recognize sounds and read out words. They also gained comprehension skills.” – Treatment 2 Teacher

“I realized the impact of the program during the normal classroom sessions. Some of the learners who [previously had] struggled in reading were doing well during the morning lessons.” – Treatment 1 Teacher

“The program has also helped pupils’ participation through games and fun and the pupils are now more open to participating in lessons.” – Treatment 2 Teacher

Research Question 3: Assessment

What did not work well when assessing learners?

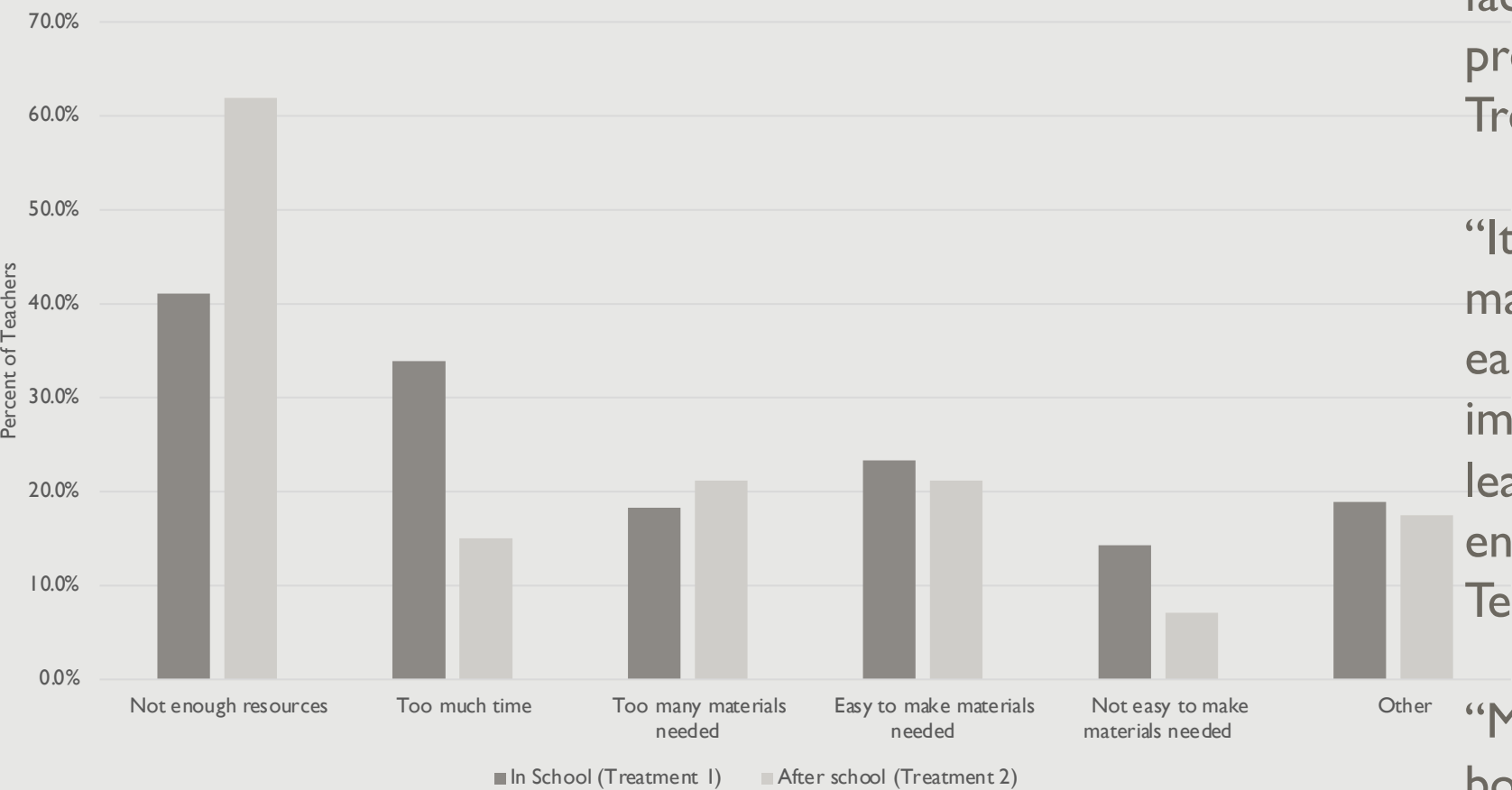


“Some pupils were afraid of the assessment and resented the grouping at first.”

“It was tiresome because the number of pupils is high, 131 pupils in grade 3. And some, they won't want to open their mouth, hence [the task becomes] time consuming.”

Research Question 3: Materials

Challenges that teachers encountered while preparing materials for the program



“Materials required a lot of preparation and yet I still need to prepare and teach the morning lessons. The most important factor was time. Limited time to prepare the materials.” – Treatment 1 Teacher

“It was challenging as the materials were not enough for each lesson and we had to improvise the teaching and learning materials from the school environment.” – Treatment 2 Teacher

“Most of the materials had to be bought. This was taxing for the school.” – Treatment 1 Teacher

Research Question 3: Teacher support

“If they come frequently, it would be of so much help, like twice a week. Help at the beginning so teachers can become self-reliant.” – Treatment 2 Teacher

“The support was important because we were corrected and guided accordingly. Continuous support will be better.” – Treatment 1 Teacher

“[The mentoring] has helped me to know my areas of weakness and improve on it. Once a challenge is identified during the mentoring, a solution is shared—i.e., we did not have enough copies of the letter tracker because learners are many. We were given money to make extra copies. The senior teacher mentored me regularly. It helped us to understand learners better and support them. It improved endurance, I understood them, I was able to support pupils patiently until they mastered.” – Treatment 1 Teacher

Challenges

- Learner absenteeism, especially in the after-school program.
- The need for more support with acquiring and preparing materials for each lesson.
- In the Treatment I program, teachers' and senior teachers' workloads increased and were interrupted by the RRP.
- Significant time was required to fully implement the program.

“[Some drawbacks were that the RRP was] cumbersome and time consuming. [Also, schools had] limited teaching and learning resources. [There was] an increased workload and responsibility for teachers. [Stress resulted from having to] support pupils to take the program positively.” – Treatment I Teacher

“Due to my normal work schedule and examination preparations, it was not possible to reach the teachers as many times as I would have liked and provide the required support.” – Mentor, Bungoma County

Recommendations:

- Pilot further revisions and implementation formats.
- Revise instructional activities to require fewer materials.
- Provide more training on all aspects of the program.
- Ensure that senior teachers have sufficient training and lighter workloads.
- Offer some type of remedial instruction for higher-level learners (e.g., comprehension).
- Structure the program so that it requires far less extra work from teachers.
- Incorporate the remedial program into the standard timetable for public primary schools.



Thank you

jmejia@rti.org