

Textbook Provision and Student Outcomes
The Devil in the Details

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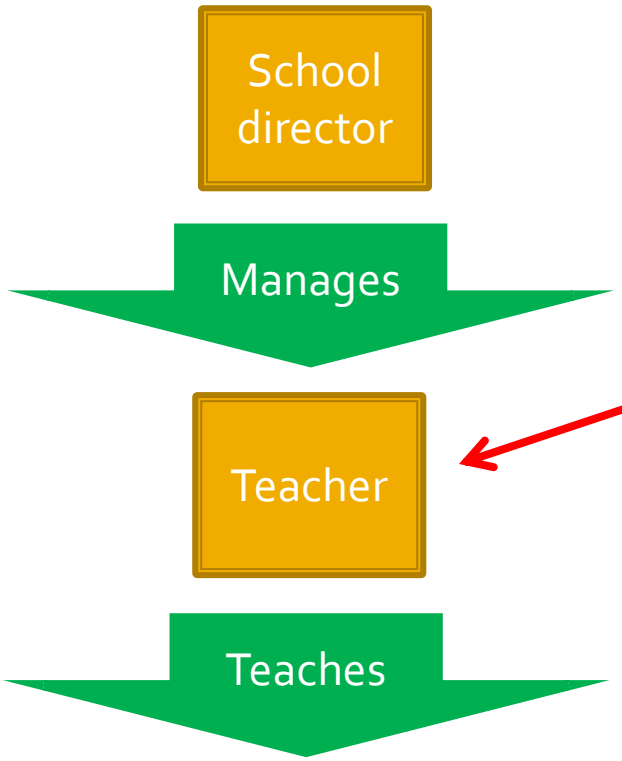
Anastasia Marshak

20 June 2012

Background

- In 2008, the average pupil-textbooks ratio in Sierra Leone was 4:1
- The Government was planning to roll out a nationwide program to provide a set of core textbooks for every child
- In order to rigorously assess the impact of textbook provision, the Sierra Leone Ministry of Education, Science and Technology (MEST) in collaboration with the World Bank, designed and implemented an impact evaluation

How It's Supposed to Work



Books

1. Provide structure & syllabus
2. Standardize instruction
3. Maintain quality
4. Supplement teacher knowledge
5. Effective language models

Richards (n.d.)

Other elements

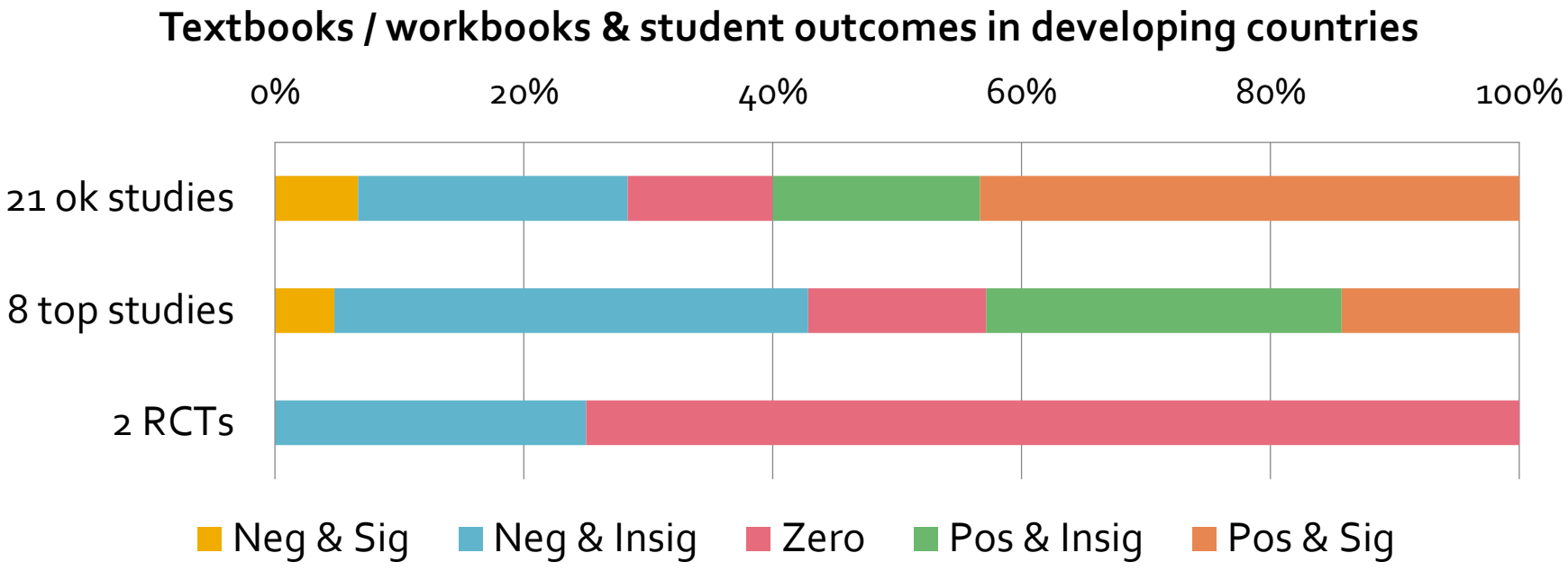
Management structure

Incentives

Other inputs

Student learning

But empirical results are mixed



Glewwe et al. 2011

- ~~Two RCTs~~ One RCT
  - **NOT ABOUT TEXTBOOKS!**
  - Kenya – only the smartest kids (Glewwe et al. 2009)

Why do an impact evaluation?

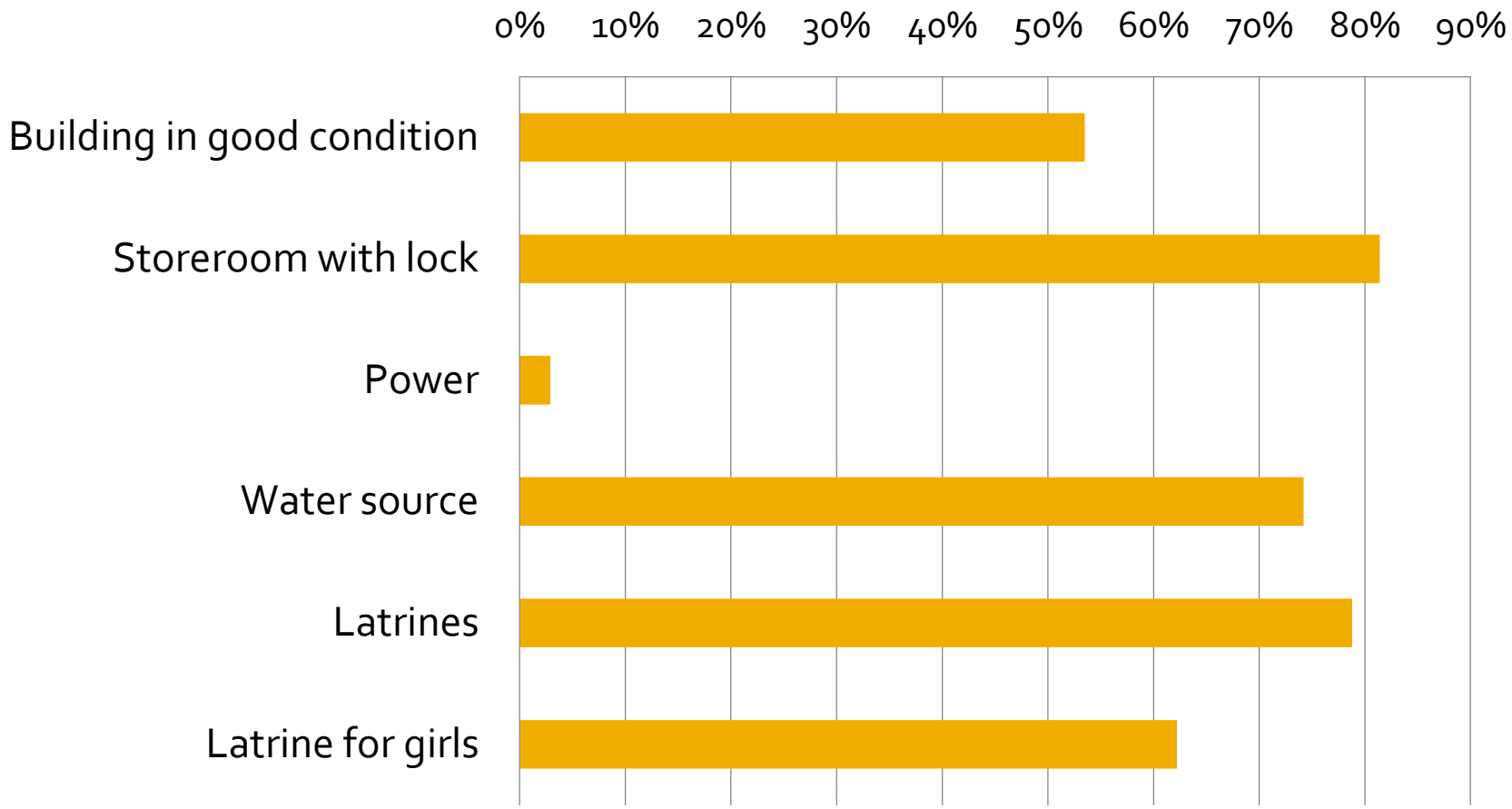
- Impacts of expensive school input provision programs often found to be low – we need to know why.
  - Evidence base for textbooks is extremely thin.
- Ministry of Education identified this as a high priority program for evaluation.
- Original plan: Overlay this with a teacher training evaluation.
- Every school received their basic allotment of books; additional project books were for impact evaluation.
- The community was involved in random selection of schools to ensure that the process was fair and transparent.

Impact Evaluation (IE) – Basic Design

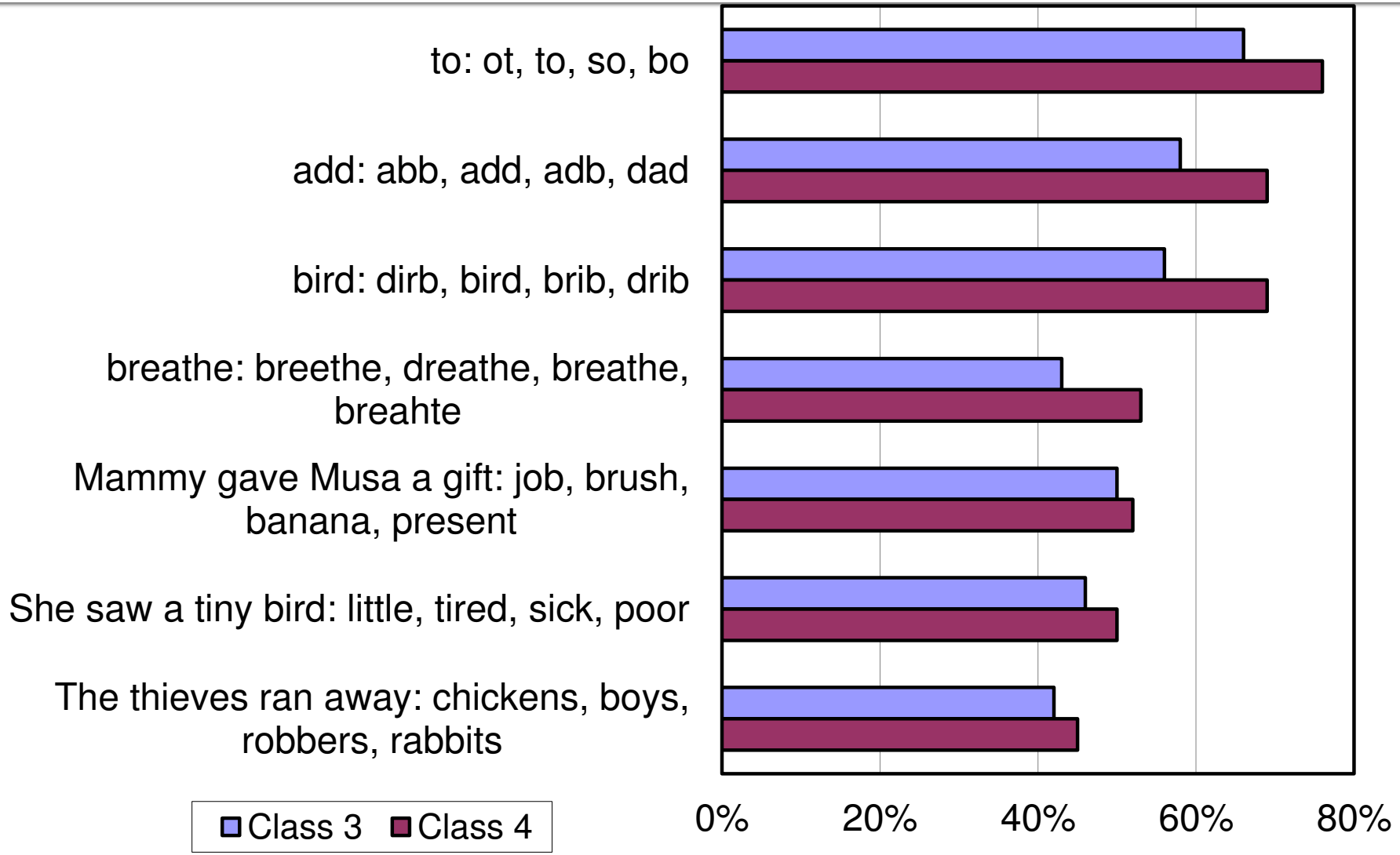
- One council from each of Sierra Leone's four regions was randomly chosen to take part in the study :
  Kailahun (Eastern region), Kambia (Northern region), Pujehun (Southern region),and Western Urban and Western Rural (Western region)
- The IE includes 337 program schools randomly divided into control and treatment
- Baseline data collection took place in May 2008 and endline in Nov 2009
- The IE studied the cohort in Grades 4 & 5

Initial school conditions

Average of 335 students per school, 8.5 teachers per school

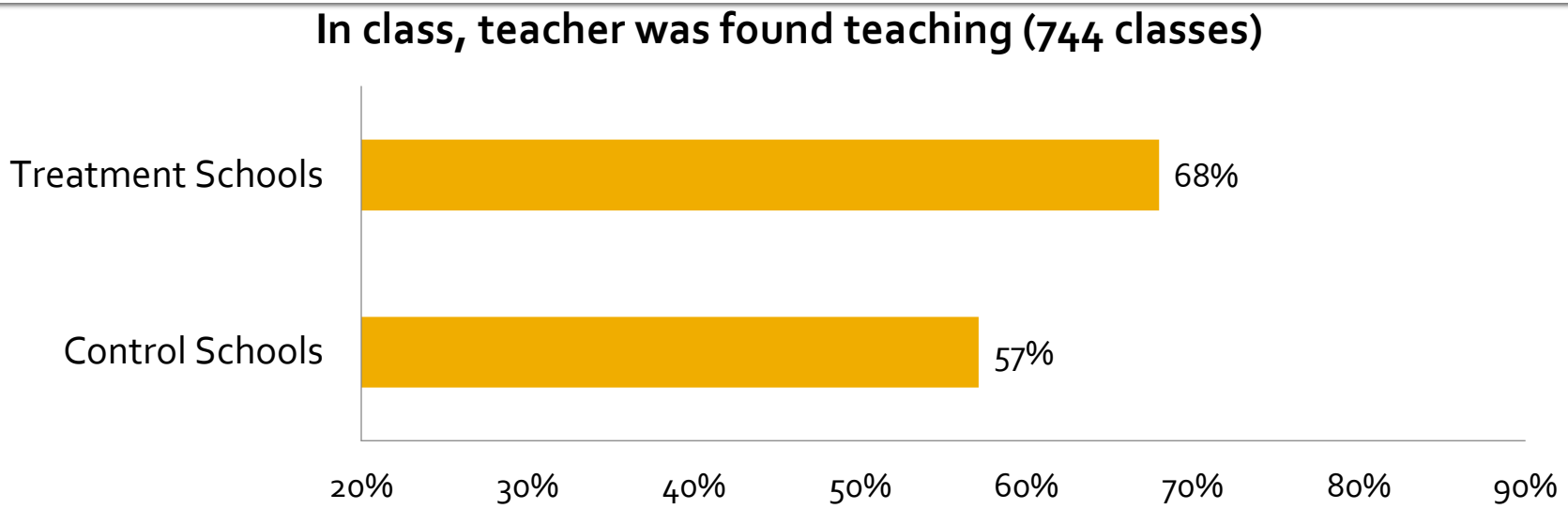


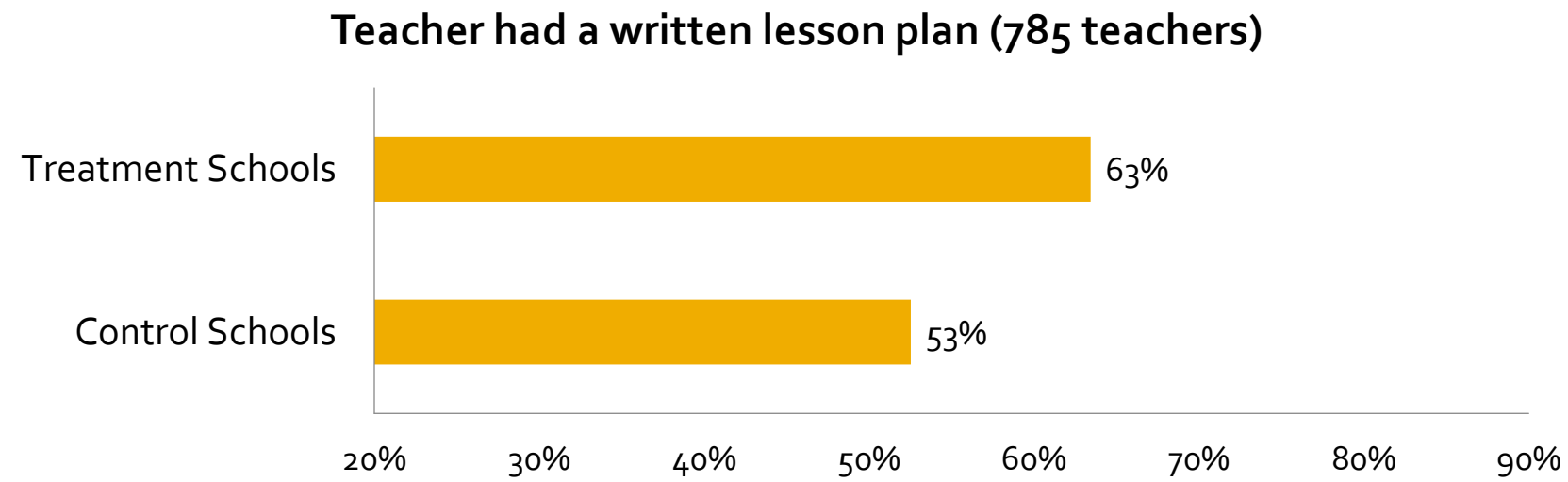
Initial student language levels



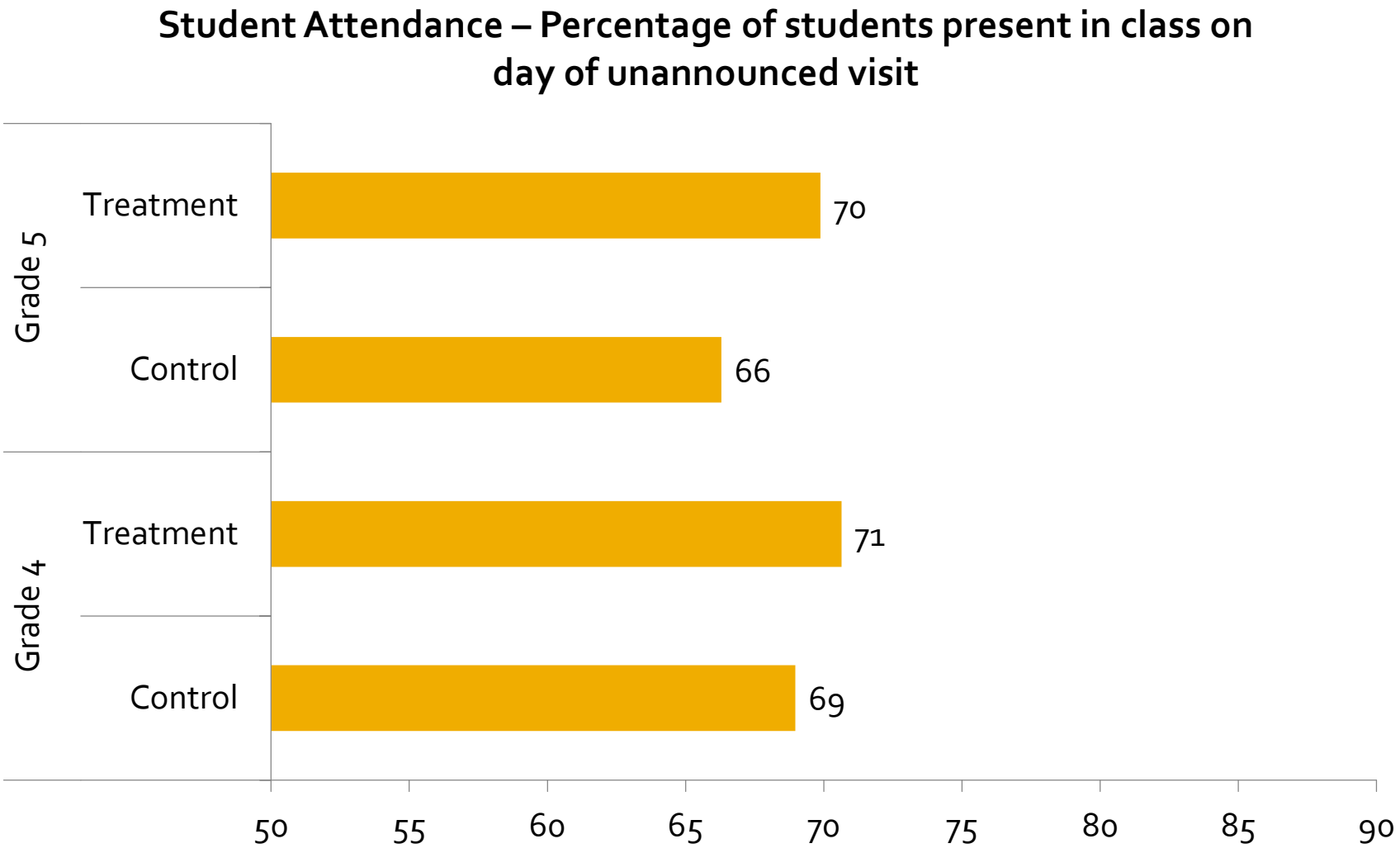
Main Impacts of the Textbook Provision Program

Some positive impacts on teacher behavior



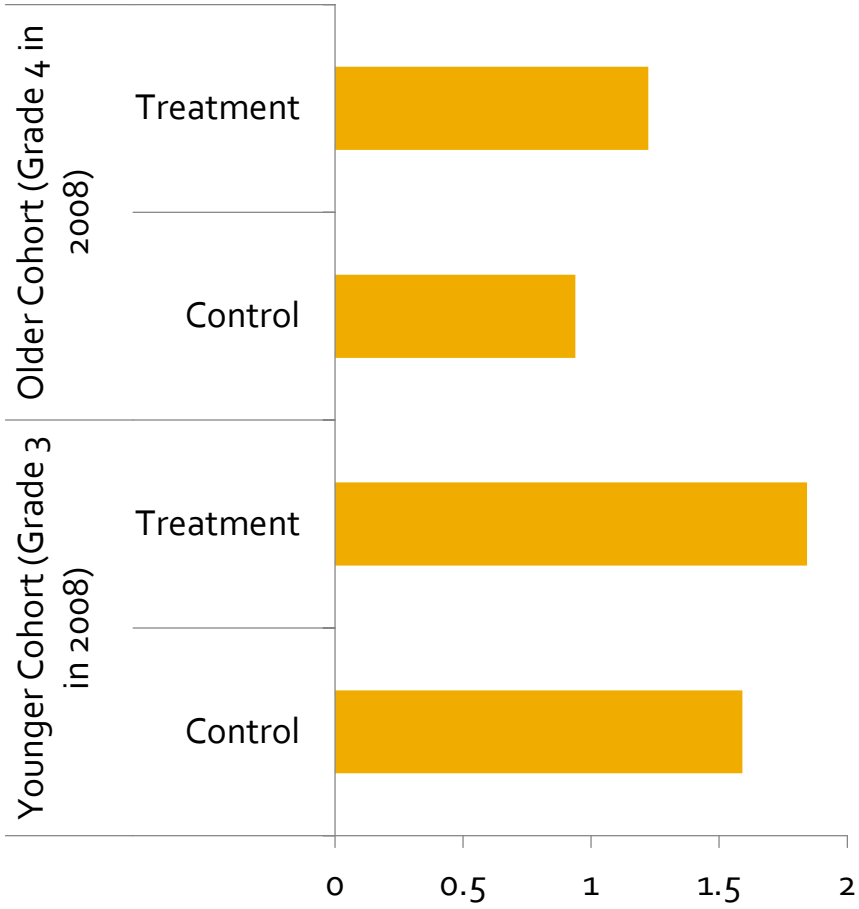


No significant impacts on student attendance

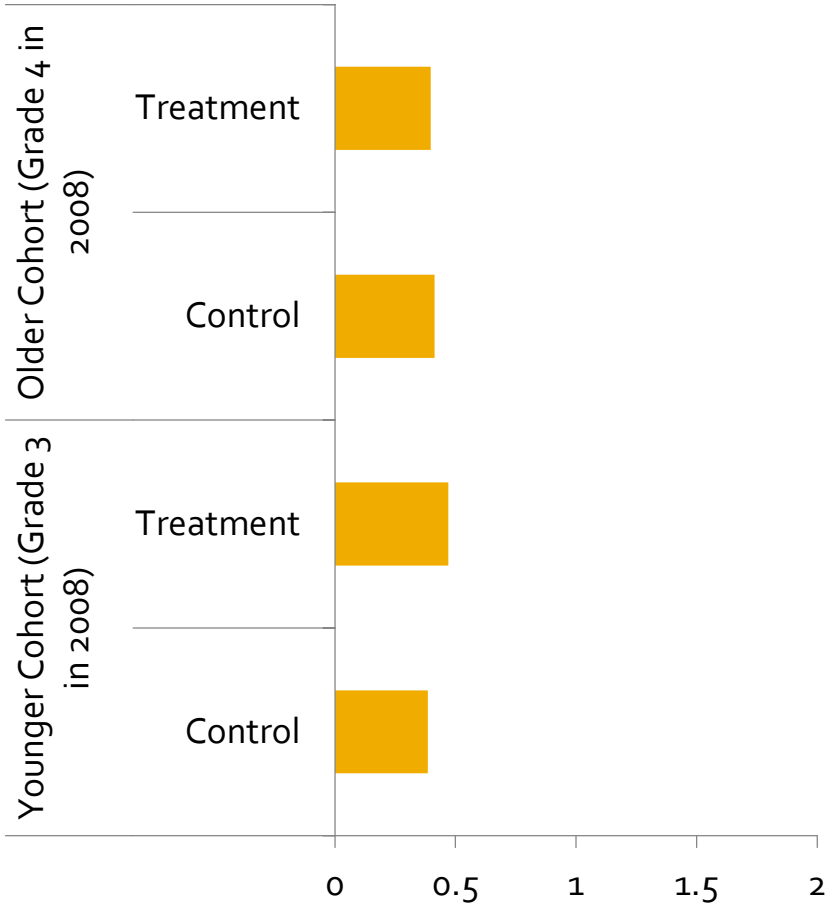


No significant impacts on student learning outcomes

Rate of change in avg school level Math score (2008-09)



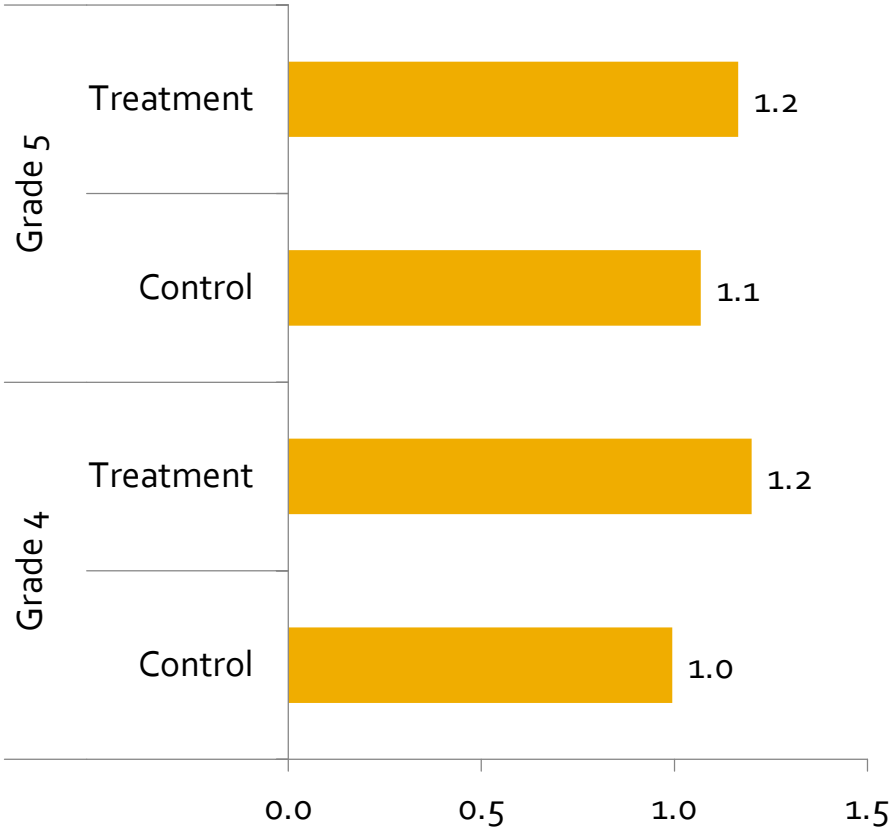
Rate of change in avg school level Eng score (2008-09)



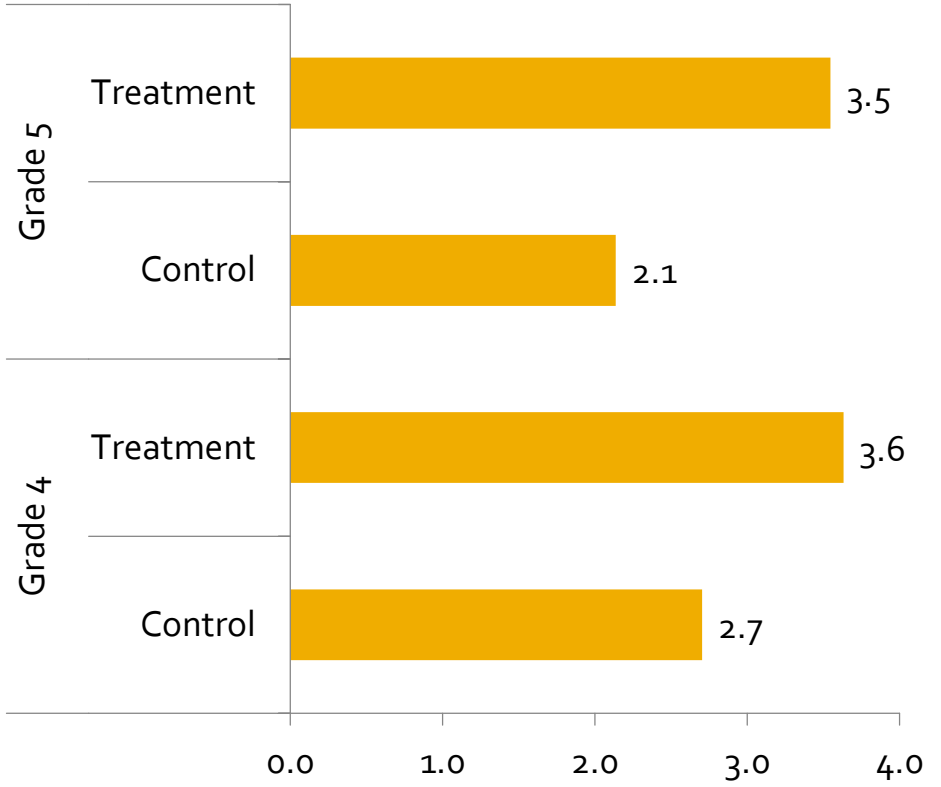
Why the low impacts?

In treatment schools, books were often stored and not distributed to students in class

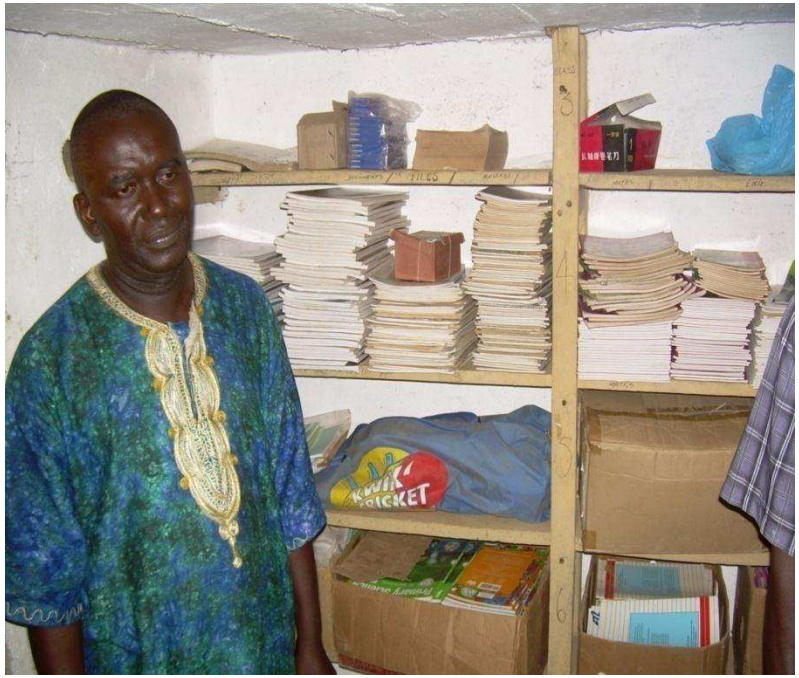
Avg no. of books in class per capita
(no. of books in class/no. of students present)

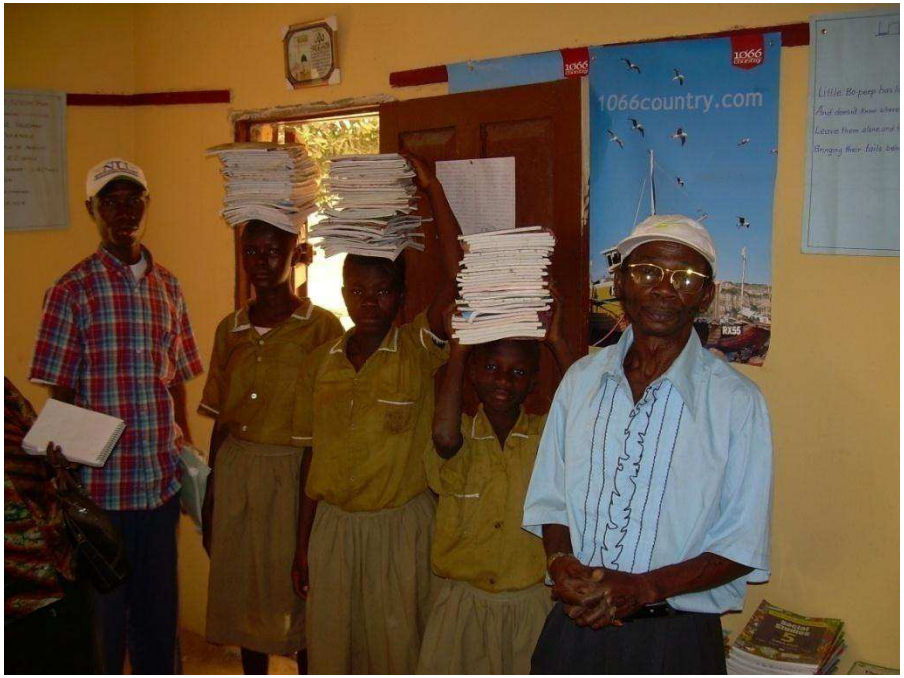


Avg no. of books in storage per capita
(no. of books in storage/no. of students present)



Books are being stored instead of being used





Why the low impacts? (contd)

	Books in class (pc)		Books home	
Assigned as Treatment School	Grade 4	Grade 5	Grade 4	Grade 5
	0.192	0.107	0.208	0.089
	(0.179)	(0.181)	(0.255)	(0.276)
Observations	301	287	314	296

In terms of 'books stored and change in books stored, per capita student present' – rates are much higher in treatment schools

	Books Stored (pc)		Δ in Books Stored (pc)	
Assigned as Treatment School	Grade 4	Grade 5	Grade 4	Grade 5
	1.083**	**1.373*****	**0.768***	**2.449*****
	(0.475)	(0.433)	(0.463)	(0.910)
Observations	306	292	235	185

Predictors of Storage

- Expectations of school administrators (smoothing)
- Remoteness
- Parental involvement:
  - Propensity to complain
  - Payment of school fees

Why?

If you think about it, the behavior is rational (*permanent income hypothesis*)

- No current expectations signal uncertainty/low expectations about future govt transfers
- For these schools, there will be higher propensity to save existing transfers for future use
- Books depreciate quickly

Why might expectations matter in this context?

- There is uncertainty with regard to Govt programs
- There is imperfect trust in Govt
  - 17% of headmasters and 36% of teachers reported not receiving their full pay
  - none of the DEOs or LCs had a clear picture of responsibilities and processes for book distribution program. No written records
  - in 25% of treatment schools headmasters had to pay for textbook delivery from warehouse to school from their personal resources

Value of parent involvement

- Schools with "active parents" (complainers) are more likely to get books (control schools)
- Treatment schools with more "active parents" less likely to store books
- Students with more educated parents and richer students are more likely to receive school-provided textbooks

Summary & Conclusion

Summary

- Input provision to the schools does not automatically lead to student access to these inputs
- Part of the inputs were stored by school administrators
- Propensity to store current transfers positively linked to uncertainty about future transfers
- Propensity to store current transfers negatively linked to parental involvement

Thinking differently about input provision

- This behavior might not be confined to textbooks:
  - School grants are most often used to finance physical inputs (classrooms, furniture, learning materials etc).
  - This choice could partly be driven by 'saving' motive
- Hoarding behavior on part of intermediate agents is seen as incompetence, inefficiency, short-sightedness, or capture. This study shows that it could be rational.
- Incentives are mediated by baseline characteristics and expectations. Expectations matter!
- The following could help:
  - Information provision on future transfers
  - Empowerment of parents