

# An Evidence-Based Intervention: Teaching at the Right Level

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# Outline

1. Who is J-PAL?
2. What do we know about how to improve learning levels?
3. An evidence-based intervention: Teaching at the Right Level





Who is J-PAL?



# J-PAL consists of a network of 142 professors who use randomized evaluations to inform policy



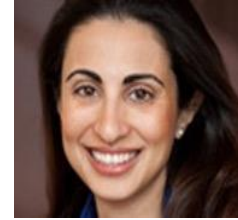
**Abhijit Banerjee,**  
MIT



**Esther Duflo,**  
MIT



**Sendhil Mullainathan,**  
Harvard



**Nava Ashraf,**  
Harvard



**Seema Jayachandran,**  
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MIT



**Michael Kremer,**  
Harvard



**Raghendra Chattopadhyay,**  
Indian  
Institute of Management



**Claudio Ferraz,**  
PUC-Rio



**Pascaline Dupas,**  
Stanford



**Mushfiq Mobarak,**  
Yale



**Jessica Cohen,**  
Harvard

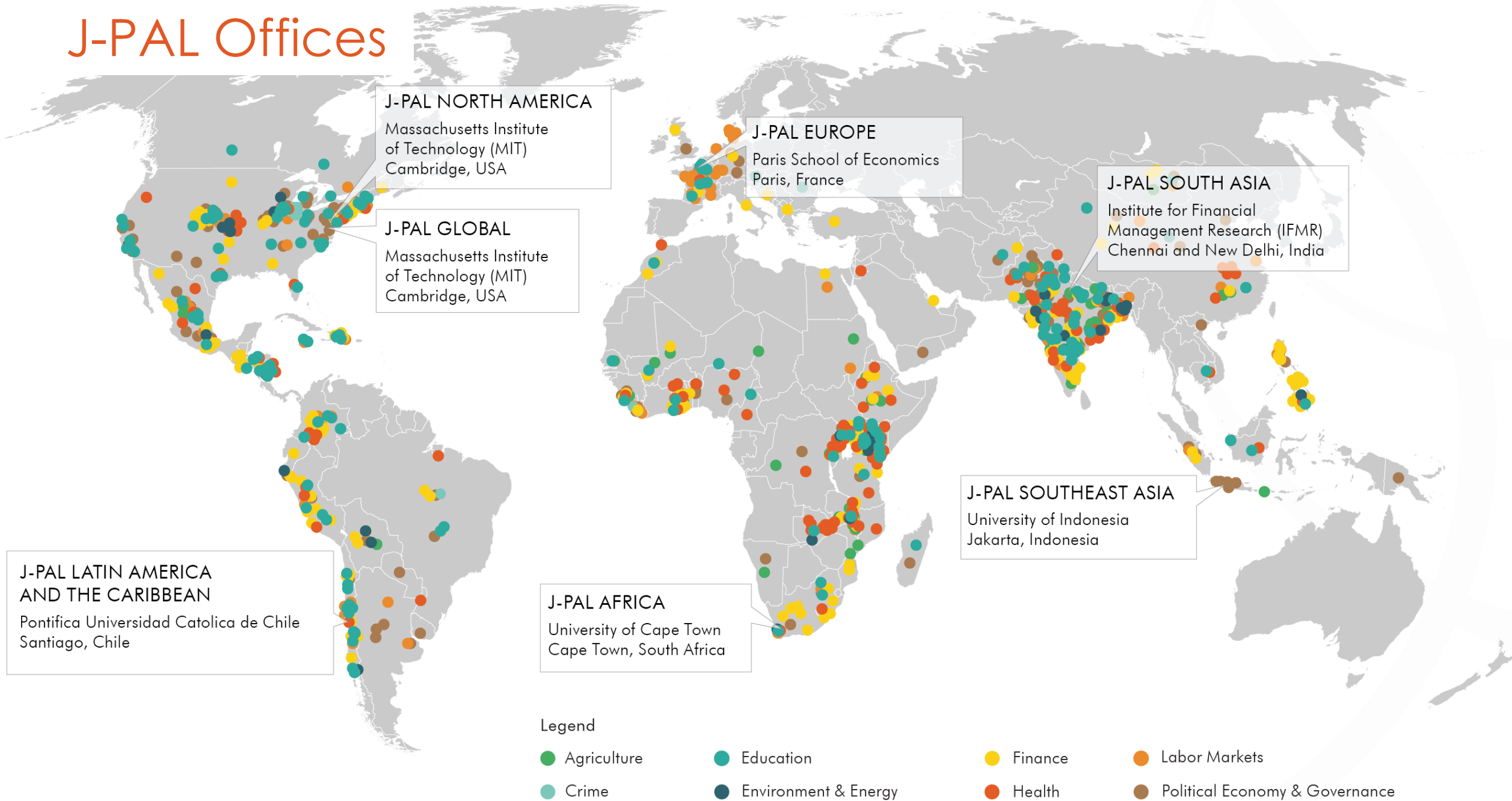


**Grant Miller,**  
Stanford

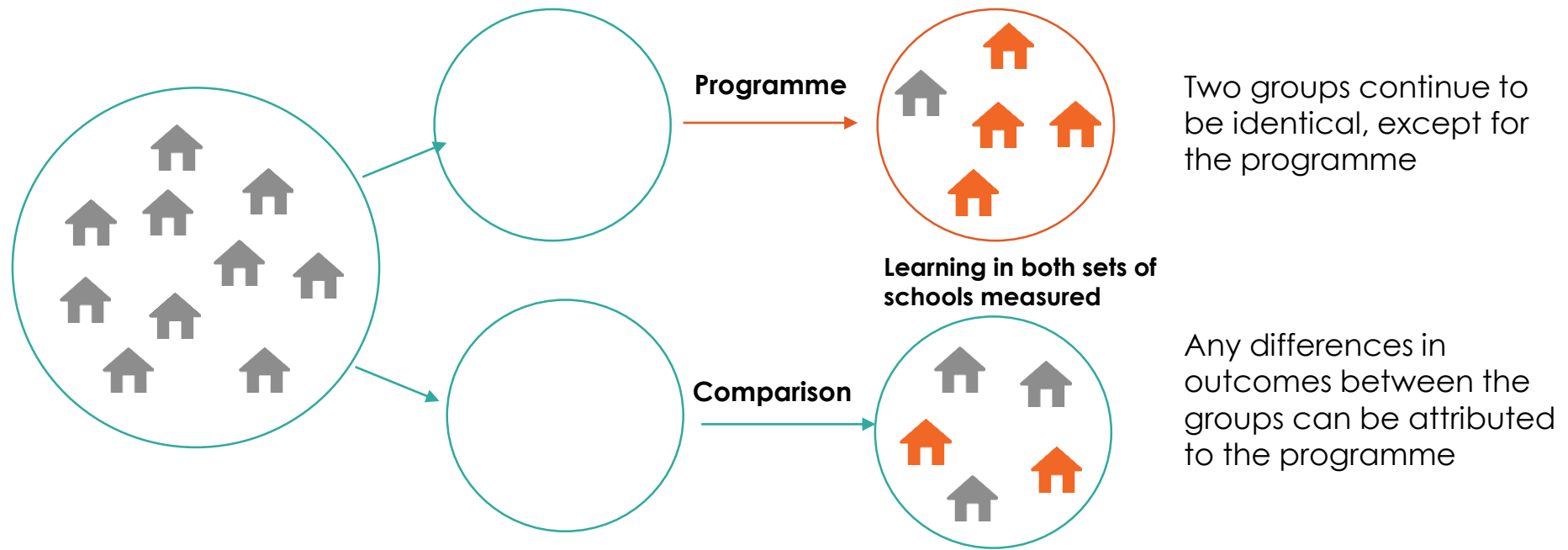


**Margaret McConnell,**  
Harvard

# J-PAL Offices



# Why Randomise?

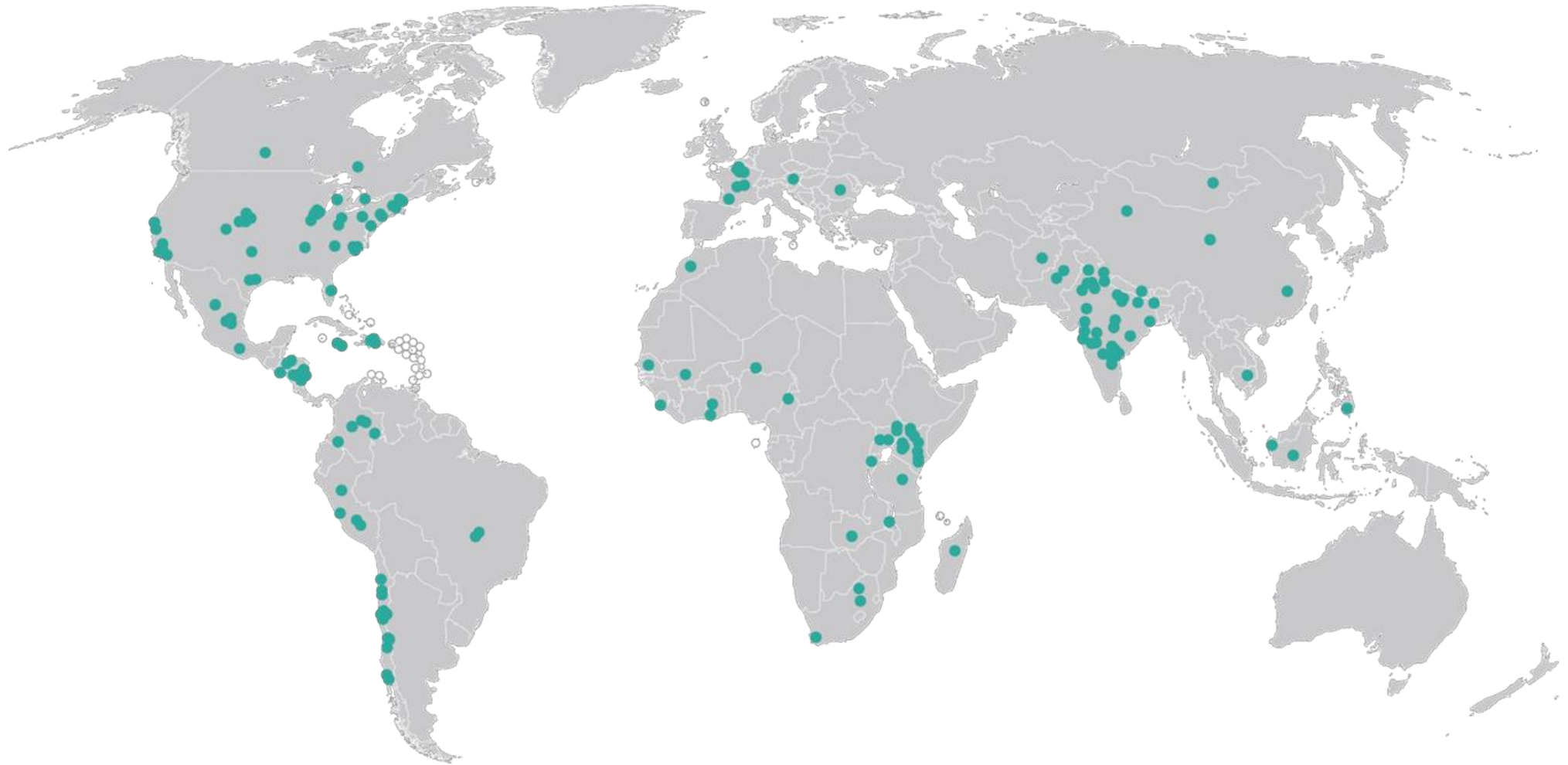






**What do we know about how to improve learning outcomes?**

J-PAL has over 200 completed and ongoing **education** evaluations across 41 countries

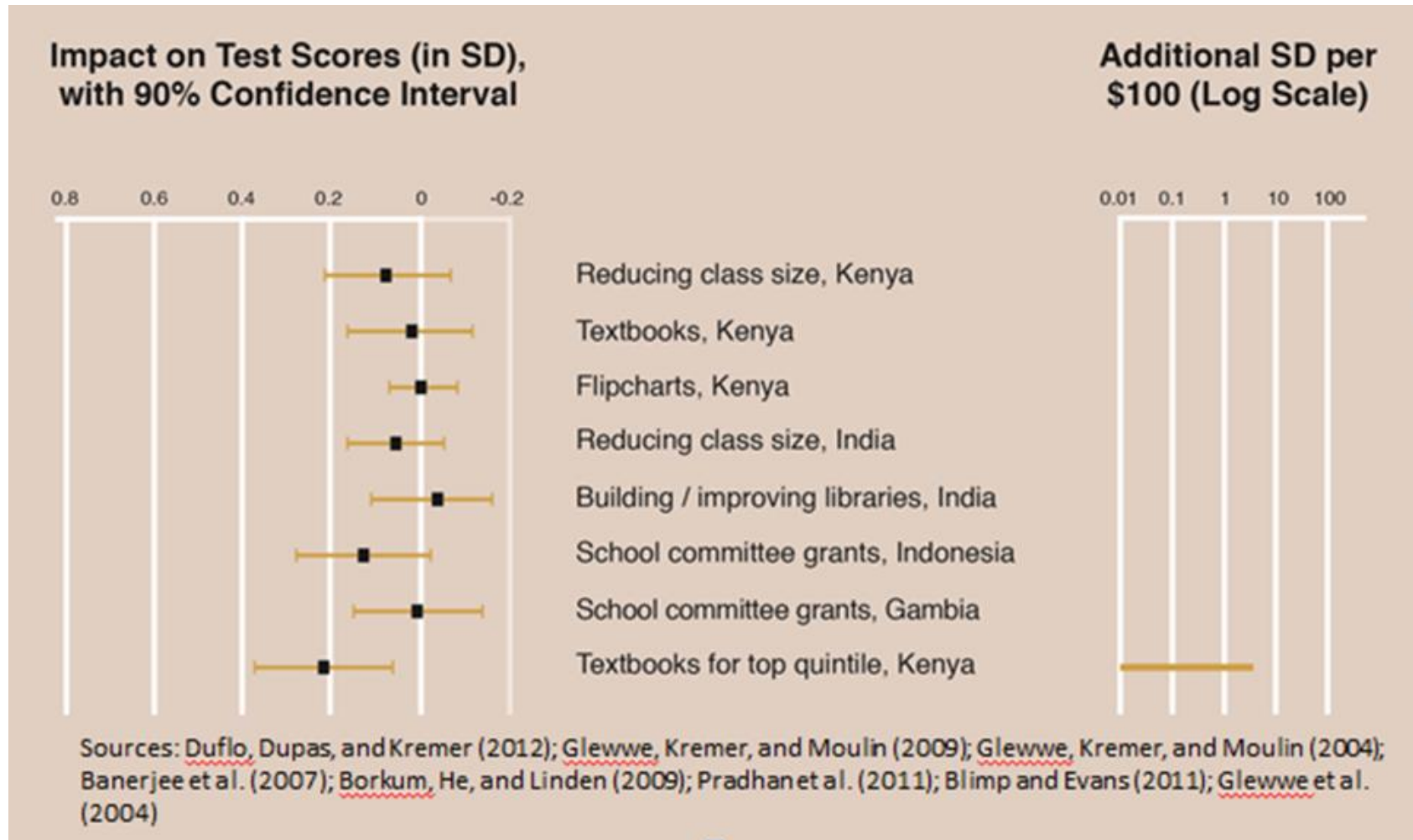




# Lessons from RCTs on Improving Student Learning

- Physical access to school is critical
- Student motivation is key, and can be improved with incentives to learn
- Providing incentives and empowering the local community to hold service providers accountable can improve learning
- Little evidence to suggest that adding inputs alone helps the majority of students
  - Inputs, including ICT, can be effective when tailored to the needs of students and classrooms
- Adaptive learning can help children who are falling behind on curricula
  - Teaching at the right level is consistently effective

# Business as usual inputs are ineffective



Source: Kremer, Conner, and Glennerster, 2013

# What could be going on?

- Large, heterogeneous classrooms
  - Teachers must target their lessons to large classes with wide range of learning levels
  - Emphasis on covering official material rather than learning basic competencies
- Top students receive the attention
  - Parents and teachers focus effort on top students
  - Self-fulfilling prophecy: kids who miss something early on never catch up

**Bottom Line:** Faced with children at many different levels, teachers struggle to help children master basic skills, while still teaching the official curriculum for that grade level.





# Evidence on Teaching at the Right Level



# Teaching at the Right Level

- Interventions that focus on changing pedagogy in classrooms, specifically changing pedagogy so that it focuses on **teaching to the level of the child** have found universally large, strong, positive outcomes on children's learning outcomes.

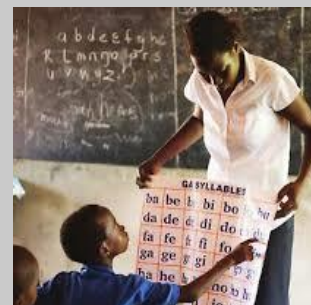
Assess children using a short, oral test



Regroup children based on their performance



Focus on basic skills using interactive activities targeting children's performance level



Mentoring support for teachers as they deliver the programme



Teaching at the Right Level (TaRL):

BHAGUJINA MUVADA SCHOOL					
ਭਗੁਜੀਨਾ ਮੁਵਾਦਾ DO/MY/YYYY	ਦਿਨ	ID	ਸਕੂਲ ਦਾ ਨਾਮ	ਦੀਵਾਨ TaRL ਦਿਨ	ਦੀਵਾਨ TaRL ਸਮਾਂ
10/02/2015	Bhagui na muvada (letter level)	81	KADODRA	12	1 2
10/02/2015	Bhagui na muvada (word level)	81	KADODRA	12	1 2
	Bhagui na muvada (Para and story level)	81	KADODRA	12	1 2

# Three Phases of TaRL Learning



Phase 1: Proof of concept



Phase 2: Scalable and sustainable models



Phase 3: The Next Frontier



# Phase 1

## Tutor/Volunteer Approach in India (2001-2003)

High school-educated local tutors in India hired to pull struggling students out of the classroom for 2 hours out of a 4 hour school day ([Banerjee et al 2007](#))

- Improved test scores by 0.14 std. deviations in Year 1 and 0.28 std. deviations in Year 2. Gains represent roughly half a year of additional schooling.
- Large effects on test scores of lowest performing children

However, challenges of recruitment of instructors and attendance with volunteer-led programmes.



# Phase II

## Iterating on the Model, India (2008 -2010)

- Teachers provided with TaRL Material
  - Results: No impact
- Teachers provided with TaRL training and material
  - Results: No impact
- Teachers provided with training , material and volunteers for two hours a day
  - Adopted in school → no impact
  - Adopted after school → 0.13 sd
- Teachers led one-month holiday camp for children grades 3-5, organised by learning level ([Duflo et al 2010](#))
  - Results: 0.09 s.d. increase in Hindi despite only 23% attendance



# Phase II

## Perfecting the Model in India (2012-2014)

- Study 1: In-school, teacher-led, one hour per day
  - Grade 3-5 students re-grouped according to ability level ([Duflo et al 2013](#))
    - Programme included intensive monitoring by the government and by NGO Pratham
  - Results:
    - 0.15 standard deviation increase in Hindi reading test scores
    - Greatest gains for weakest students
- Study 2: Volunteer-led, in-school, short bursts of time
  - Volunteers led programme for bursts of time (two sets of 20 day bursts or 4 sets of 10 day bursts for 3 hours a day during school time)
  - Results: Huge gains (0.7 s.d. in Hindi and math)

Pratham is scaling both models in India. Study 1 is close to the model now being scaled in Zambia.





# Phase II

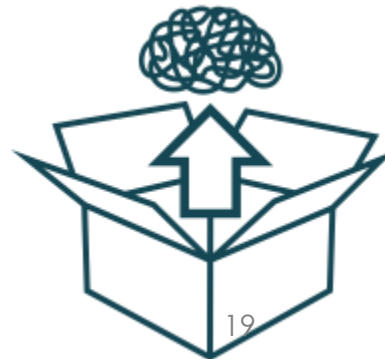
## Bringing the Approach to Africa (2010-present)

- Teacher Community Assistant Initiative, Ghana (RCT)
  - Tested four interventions:
    1. Assistant-led remedial classes during school (effective)
    2. Assistant-led remedial classes after school (effective)
    3. Extra assistant and randomly split classes (not effective)
    4. Teacher-led targeted instruction (effective when well-implemented)
- Catch Up Programme, Zambia (Policy Pilot)
  - Ministry of General Education piloted teacher-led programme in 80 schools. Pilot showed programme to be well-implemented.
  - Ministry now planning to scale the programme to 1,800 schools over the next three years, with support from USAID.



## Phase III: The Next Frontier

- Adaptive, computer-based learning has consistently been shown to be effective for helping students learn maths
- Individualised tutoring also shown to be effective for improving maths scores in the United States (Cook et al, 2015)





For more information:  
[www.povertyactionlab.org/education](http://www.povertyactionlab.org/education)

Questions?

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<https://www.povertyactionlab.org/sites/default/files/publications/Not%20Too%20Late%20Improving%20Academic%20Outcomes%20for%20Disadvantaged%20Youth.pdf>