



Moving Beyond Inputs: Lessons from Models to Improve Early Grade Reading Outcomes in Developing Countries

John Floretta, Associate Director of Policy

Meagan Neal, Policy Associate

Luke Strathmann, Senior Policy Associate

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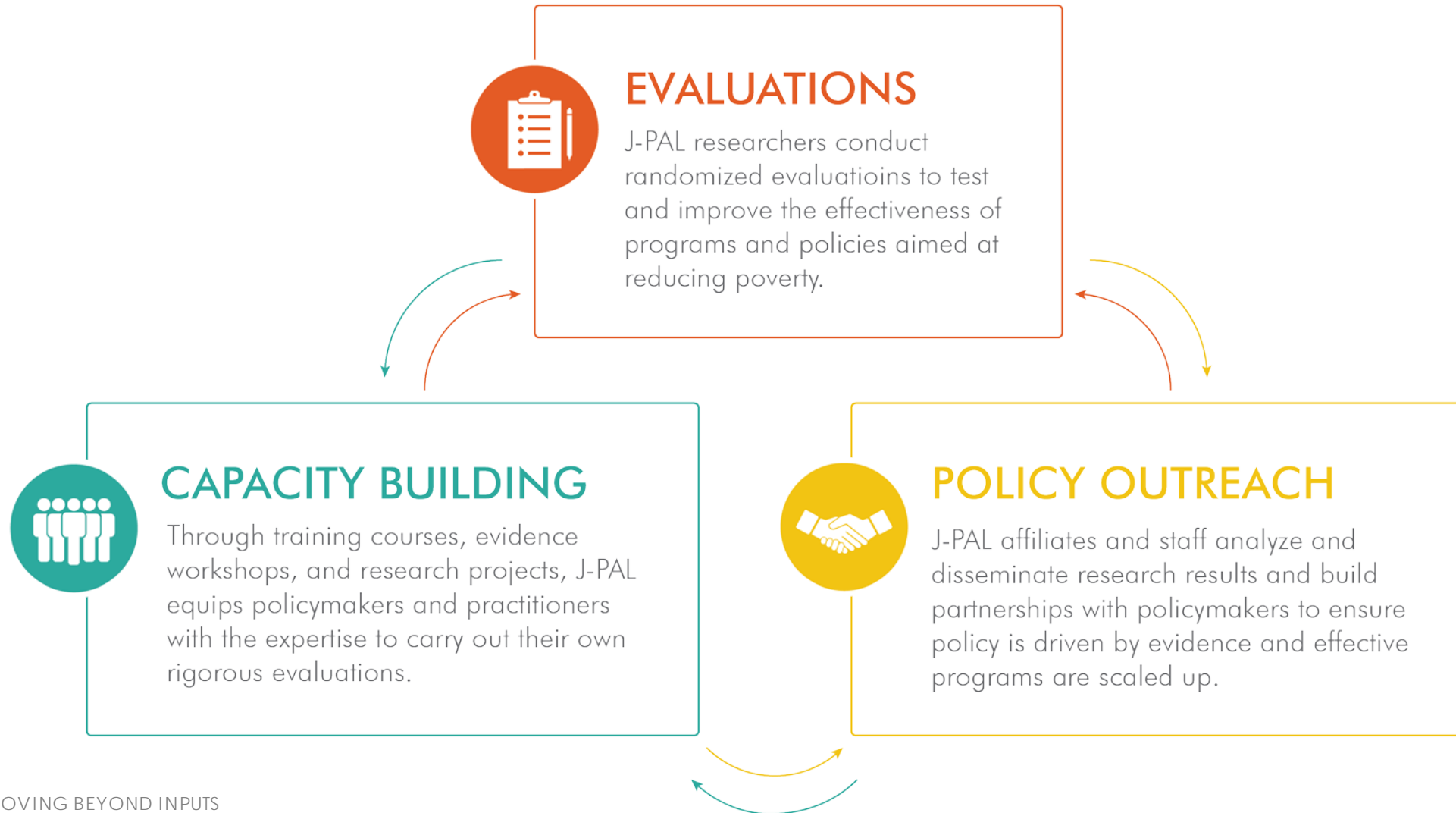


Outline

- Introduction to J-PAL's Education Program
- Global Trends in Education
- What works to improve early grade reading outcomes?
 - Inputs
 - Combining inputs and changes in pedagogy
 - Remedial education

J-PAL'S MISSION IS TO ENSURE THAT POLICY IS DRIVEN BY EVIDENCE AND RESEARCH IS TRANSLATED INTO ACTION

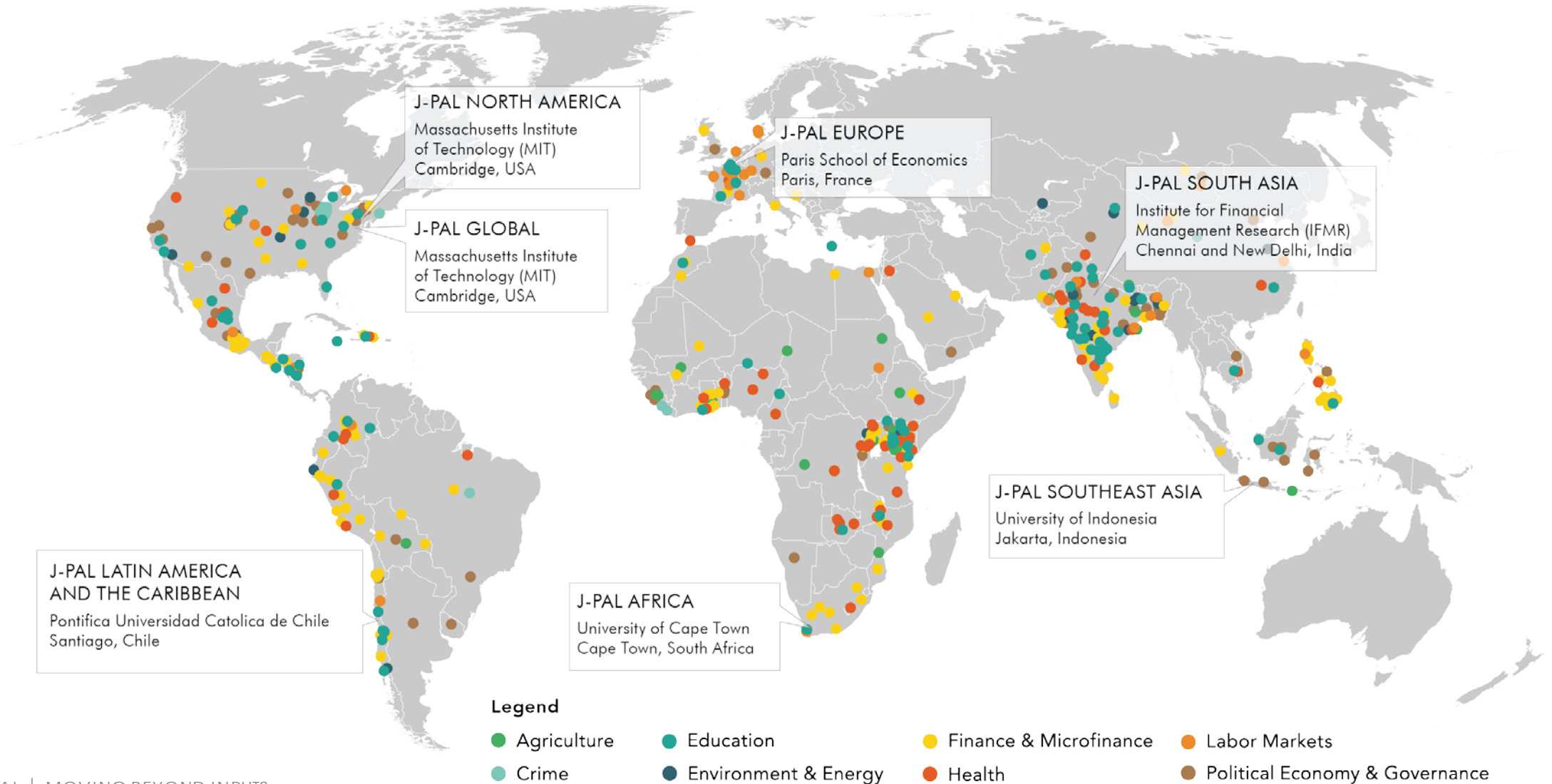
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J-PAL's worldwide network of 142 professors use randomized evaluations to inform and improve policies to fight poverty



J-PAL has 7 offices and over 770 ongoing and completed evaluations in 69 countries

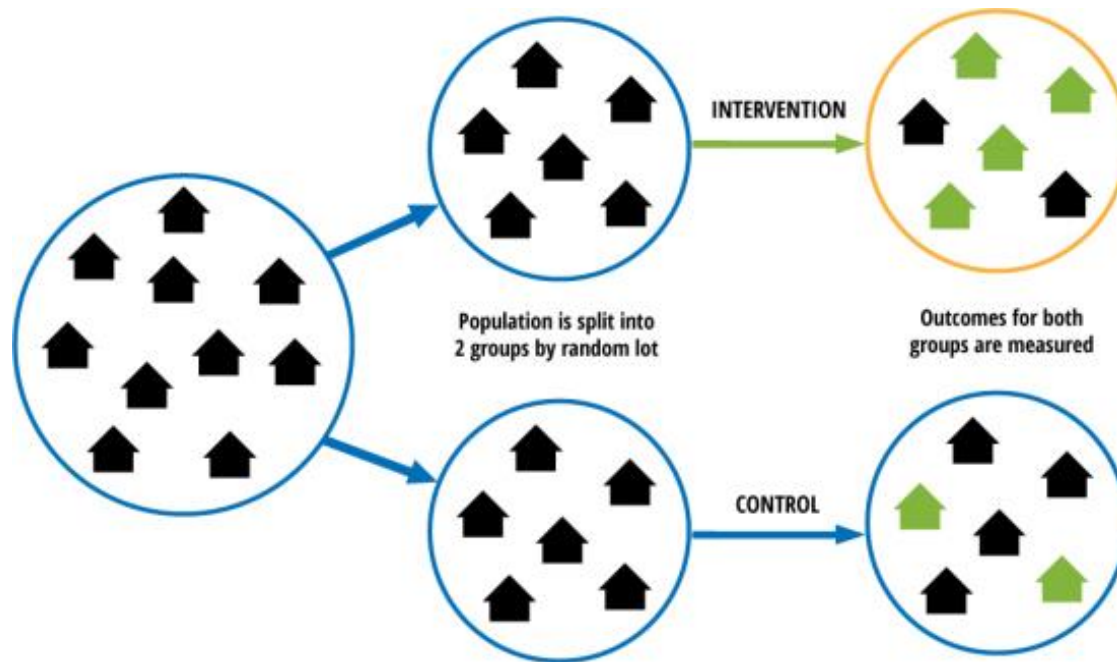


To date, J-PAL has 186 completed and ongoing education evaluations across 39 countries



Randomized evaluations help us measure the causal impact of a program, policy, or technology

Before the program starts, eligible individuals are randomly assigned to two groups so that they are statistically identical before the program.



Two groups continue to be identical, except for treatment

Any differences in outcomes between the groups can be attributed to the program

We conduct evaluations for different reasons

- Debunking **commonly-held beliefs**
 - Do smaller classes *really* benefit students?
- Understanding **binding constraints**
 - What keeps young children from learning how to read?
- Establishing a **proof of concept**
 - Can performance pay for teachers work, when implemented well?
- Answering **broader questions** in economics
 - Are there intra-household conflicts in the production of education?

Primary education: Global shift from participation to quality and learning

Millennium Development Goals



Net primary enrollment in
developing countries:
91% in 2015

Sustainable Development Goals



By 2030, ensure that all girls and
boys complete free, equitable and
quality primary and secondary
education leading to relevant and
effective learning outcomes

Children may not learn at school for multiple reasons

- Resources are insufficient
 - Resources at school and home (e.g., textbooks or laptops)
 - Learning time is insufficient (e.g., during and/or after school)
- Teacher/principal effort is too low
 - Parents have limited oversight over schools
 - Teachers/principals have little incentive to improve learning
- Rigid and overly ambitious curricula do not match the learning levels of the students
 - Teachers do not personalize instruction
 - Low-performing students do not get extra help

How can we improve reading outcomes?

Many possible solutions

- More books and learning materials
- Integrate technology
- Hire more teachers, increase teacher pay
- Improve teacher training
- Monitor and reward teachers
- Improve pedagogy
- Remedial education



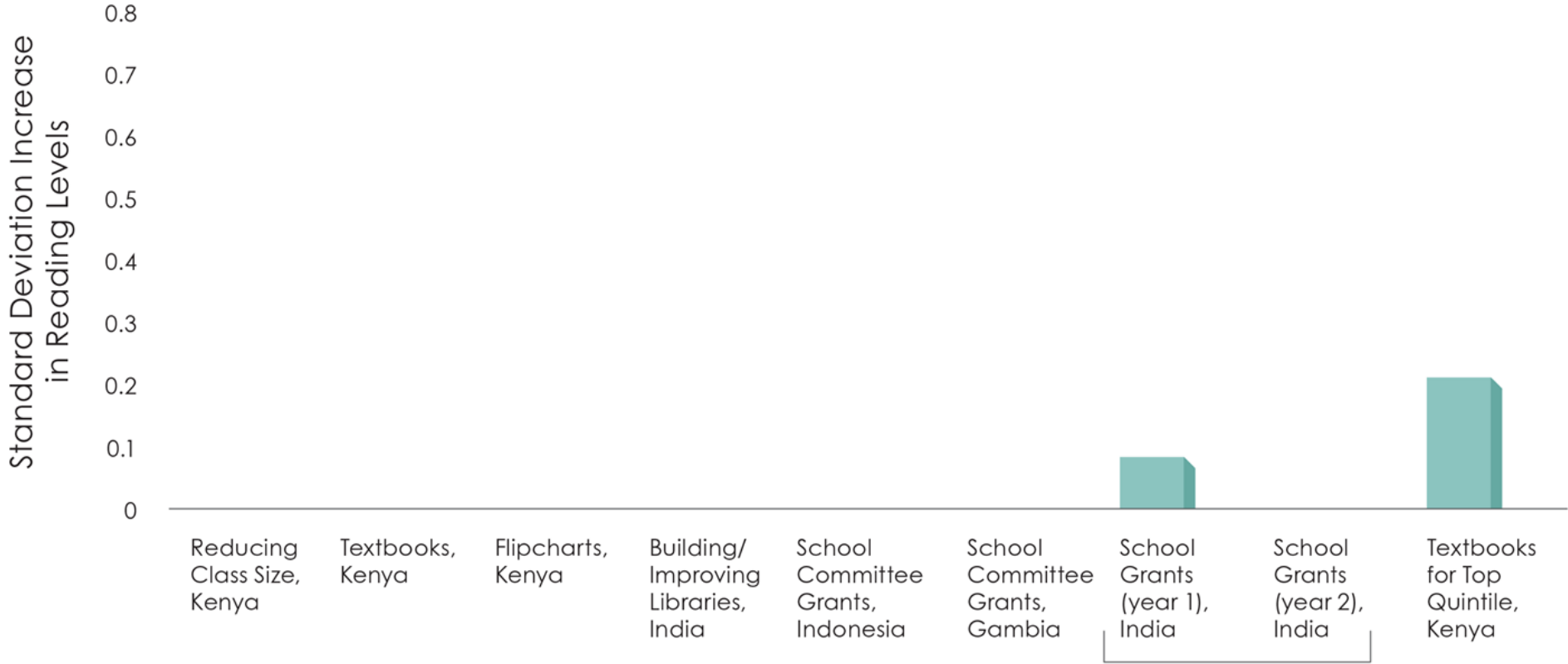
Inputs alone are not sufficient

- Classroom inputs
 - Kenya: Textbooks, flipcharts
 - Sierra Leone: Textbooks
 - India: Libraries
- Technology
 - Peru: Laptops
 - Colombia: Laptops
- Cutting student-teacher ratio
 - Kenya and India
- Flexible block grants for schools
 - India, Indonesia, The Gambia



References: Glewwe et al. (2004), Glewwe et al. (2009), Sabarwal (2014), Borkum et al. (2013), Duflo et al. (2015), Banerjee et al. (2007), Das et al. (2013), Pradhan et al. (2014), Blimpo et al. (2013), Cristia et al. (2012), Linden and Barrera-Osorio (2009)

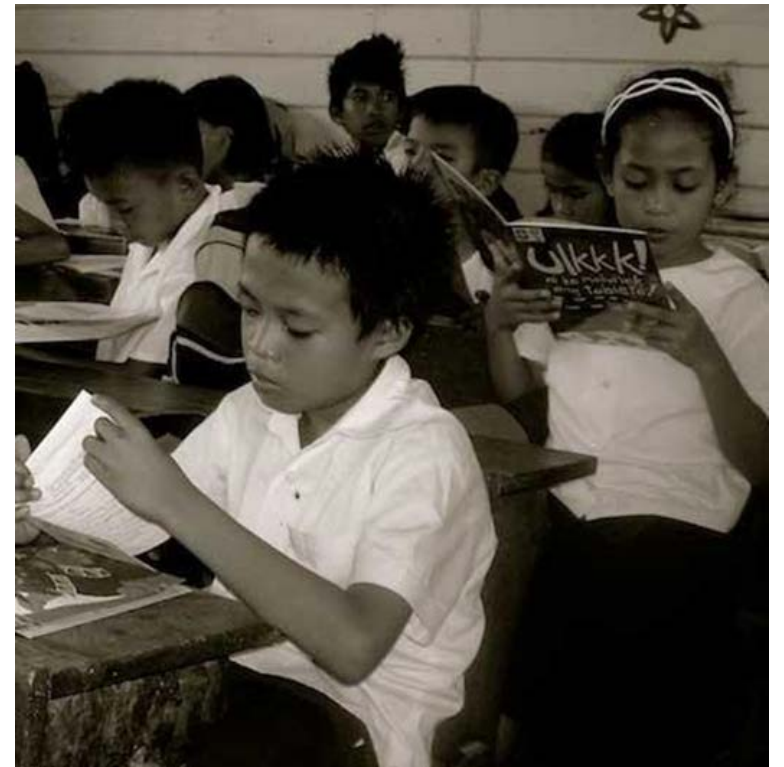
Business-as-usual inputs alone don't work



...But inputs can be helpful when integrated into the learning process

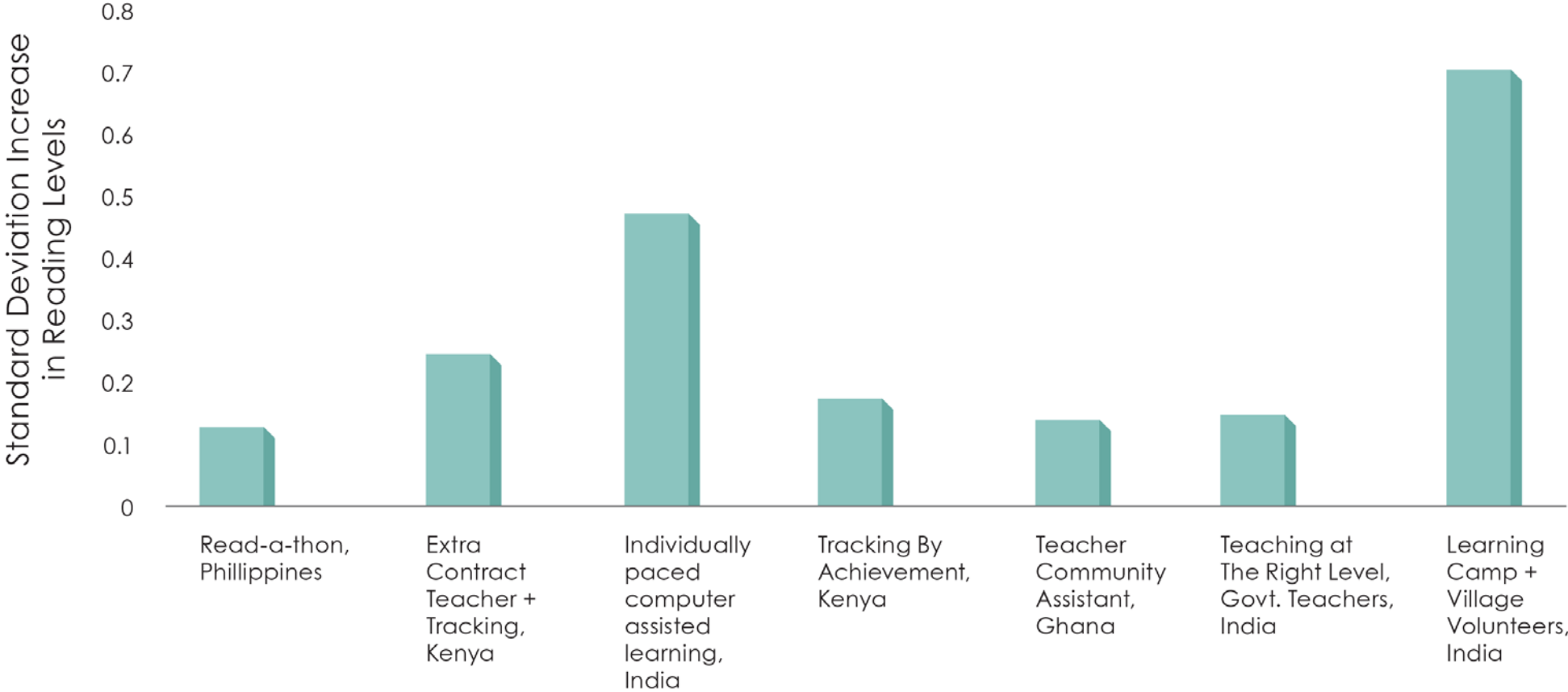
Better results when appropriate materials help solve a particular problem, or change teaching approach:

- Textbooks for top quintile, Kenya
- *Read-a-Thon, Philippines*: Storybooks, teacher training, student encouragement
- Using ICT to improve pedagogy
 - India: self-paced math games
 - India, post-primary: highly personalized technology-led instruction program
- Combining school block grants and teacher incentives



References: Glewwe et al. (2009), Abeberese et al. (2013), Banerjee et al. (2007), Muralidharan et al. (forthcoming), Mbiti and Muralidharan (forthcoming)

Changes in pedagogy can have large impact



Supplementary remedial education: Teaching at the right level

- Regrouping students by **ability** rather than by **grade level or age** has led to substantial improvements in basic reading and math skills
- The Model:
 - Initial skills assessment
 - Divide classrooms by ability rather than grade level
 - Focus on basic skills rather than rigid curriculum



“Chalk and Talk” teaching



Teaching at the Right Level

5 RCTs in India testing many implementation models

- Volunteers, contract teachers, government teachers, teacher assistants
- In school vs. out of school
- Pulling out lower-performing students for part of the day vs. splitting the class
- Can be implemented by government teachers with dedicated time and a specific mandate to teach at child's level
 - BUT: Simply training teachers in remedial pedagogy not effective, possibly due to competing priority of finishing syllabus

References: Banerjee et al. (2007), Banerjee et al. (2010), Banerjee et al. (2011), Duflo et al. (forthcoming), Lakshminarayana et al. (2013), Duflo et al. (2015)

Supplementary remedial education is effective across contexts

- Small group tutoring in Chile
- Teacher community assistants in Ghana
- Tracking by initial test scores in Kenya
- Match tutoring in Chicago public schools (math)



References: Cabezas et al. (2011), A. Duflo and Kiessel (forthcoming), Duflo et al. (2011), Cook et al. (2014)

Remedial education: models for scale

- Model evolved over past 10 years, informed by rigorous evaluation
- Two models ready for scale:
 - Learning camps + village volunteers, in school
 - Teacher-led model with government teachers, in school
- Contextualizing and scaling up:
 - India
 - Ghana
 - Zambia



Policy lesson summary

- Adding inputs alone is not sufficient
- However, inputs can help increase learning when tailored to the needs of students and classrooms
- Changes in pedagogy are key
- Remedial education is consistently effective to help children “catch up”
- School governance is also key, but can be challenging to implement

Additional resources

- [Improving Student Learning: Cost-Effectiveness of Education Programs](#) (J-PAL)
 - Policy lessons on improving test scores and cost-effectiveness analysis of 29 education programs
- [Booked for Learning](#) (J-PAL)
 - Policy Briefcase on Philippines Read-a-Thon
- Forthcoming: Two policy bulletins on improving student participation and learning (J-PAL)
- [Improving School Education Outcomes in Developing Countries: Evidence, Knowledge Gaps, and Policy Implications](#) (Glewwe and Muralidharan 2015)
 - *Handbook of the Economics of Education* chapter reviewing 118 high-quality education studies by J-PAL affiliate Paul Glewwe and J-PAL Education Co-Chair Karthik Muralidharan
- [Field Experiments in Education in Developing Countries](#) (Muralidharan 2016)
 - *Handbook of Field Experiments* chapter summarizing lessons learned, key open questions, and guidance on how to design and implement high-quality field experiments in education

J-PAL is happy to provide any additional resources or follow-up. Please direct inquiries to Meagan Neal at mneal@povertyactionlab.org.



Thank you!

Questions and Discussion

