

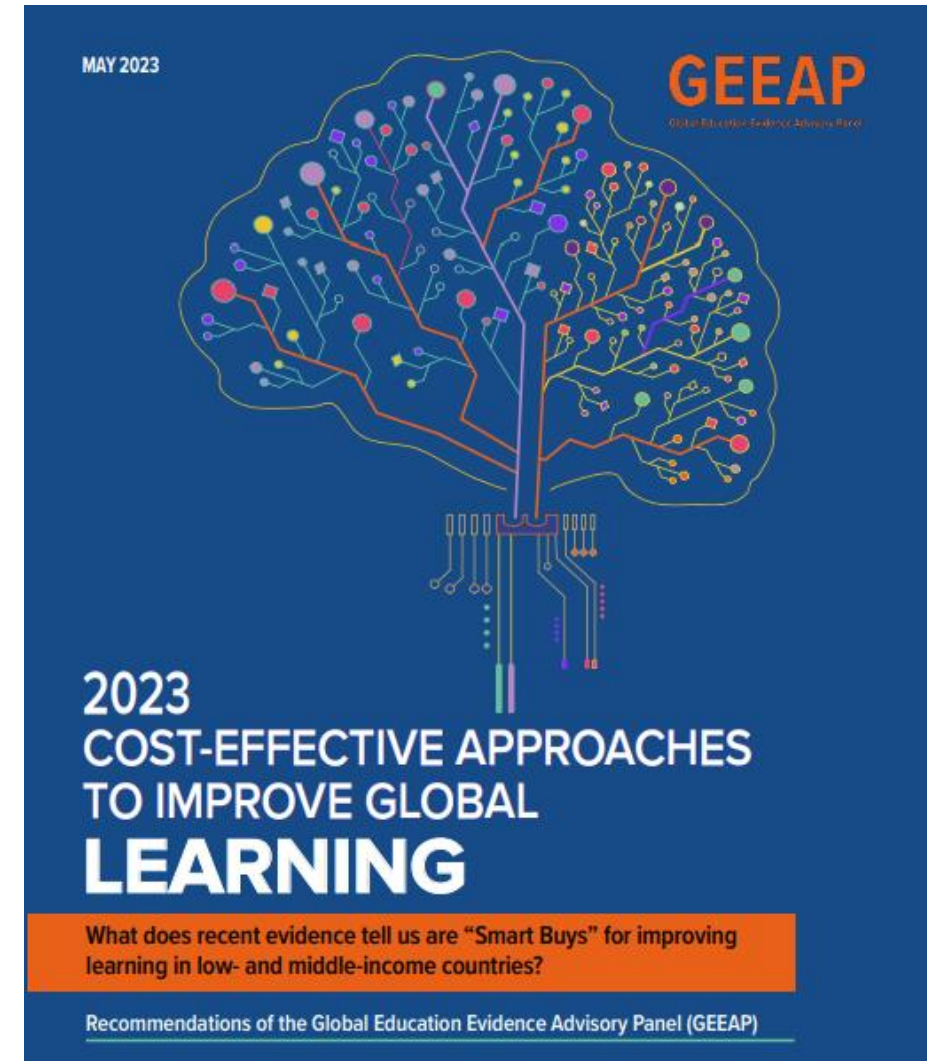
# Smart Buys in Foundational Learning

Cost-effective approaches to improve learning in LICs and MICs

Halsey Rogers

WB Foundational Teaching and Learning Event  
Accra, May 2024

The Panel is convened by the Foreign, Commonwealth & Development Office (FCDO), The World Bank, the United Nations International Children's Emergency Fund (UNICEF), and the United States Agency for International Development (USAID)



# How to tackle the global crisis in foundational learning?

**Learning poverty** in LICs and MICs before the pandemic (in 2019):

- Global: 57 percent
- Sub-Saharan Africa: 86 percent

After Covid, it's even higher

**Global Education Evidence Advisory Panel** convened by WB and FCDO in response (in 2020), with USAID and UNICEF soon joining

- Independent interdisciplinary panel of global experts to synthesize evidence on most effective strategies for improving foundational learning







**Kwame Akyeampong**  
*Co-chair of the panel*  
*Professor of International Education and Development, The Open University*  
Expert in education systems in Africa, including on political economy of reform, teacher training and complementary basic education.



**Tahir Andrabi**  
*Inaugural Dean, LUMS School of Education, and Professor of Economics, Pomona College*  
Researcher on education and advisor to Government in Pakistan. Co-founder of the Centre for Economic Research in Pakistan CERP.



**Benjamin Piper**  
*Director, Global Education, Bill & Melinda Gates Foundation*  
Education expert who supports grantees that work to improve foundational literacy and numeracy outcomes in low-income countries. Previously supported large-scale education programs across Sub-Saharan Africa, the Middle East, and Asia.



**Sara Ruto**  
*Former Chief Administrative Secretary for Education, Kenya*  
Experienced researcher; served as director/CEO of the PAL Network since its inception in 2015; former Regional Manager of Uwezo East Africa using evidence to draw public attention to children's learning.



**Abhijit Banerjee**  
*Co-chair of the panel*  
*Professor of Economics, MIT*  
Nobel prize-winning economist celebrated for experimental approach to alleviating global poverty.



**Rukmini Banerji**  
*CEO, Pratham Education Foundation. Award winner of the Yidan Prize for Educational Development*  
Innovator in new pedagogical approaches and assessment, leader of large movement to transform education in India and beyond.



**Jaime Saavedra**  
*Regional Director for Human Development, Latin America and the Caribbean, the World Bank, former Minister of Education of Peru*  
Researcher and policymaker with extensive expertise on education, inequality and poverty reduction.



**Sylvia Schmelkes**  
*Professor and Researcher, Research Institute for the Development of Education, Universidad Iberoamericana, Mexico City.*  
Sociologist and education researcher who headed Mexico's National Institute for the Evaluation of Education; also has expertise in intercultural bilingual education, values, and adult learning.



**Susan Dynarski**  
*Professor of Education, Harvard Graduate School of Education*  
Researcher at the forefront of understanding and reducing inequalities in education, including for college access, financial aid design, labour market outcomes, and high school reforms.



**Rachel Glennerster**  
*Associate Professor, Division of the Social Sciences and the College, University of Chicago; former Chief Economist at FCDO*  
Expert on assessing cost-effectiveness of alternative interventions to reduce poverty, including in education. Researcher and policy advisor.



**Hirokazu Yoshikawa**  
*Professor of Globalization and Education, NYU Steinhardt*  
Community and developmental psychologist; has done extensive research across the US, LICs and MICs, with a particular focus on early childhood and inequality.



**Sally Grantham-McGregor**  
*Emeritus Professor of Child Health and Nutrition, UCL GOS Institute of Global Health*  
Pioneer in the rigorous study of Early Childhood Development in developing countries with a focus on parental engagement. An Officer of the Most Excellent Order of the British Empire (OBE).



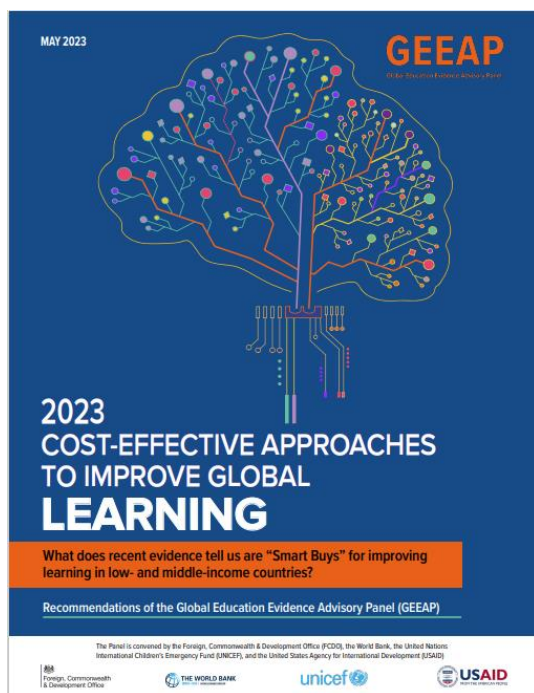
**Karthik Muralidharan**  
*Professor of Economics, University of California San Diego*  
Global co-chair of education at JPAL. Lead PI in India for the Research on Improving Systems of Education (RISE) program.

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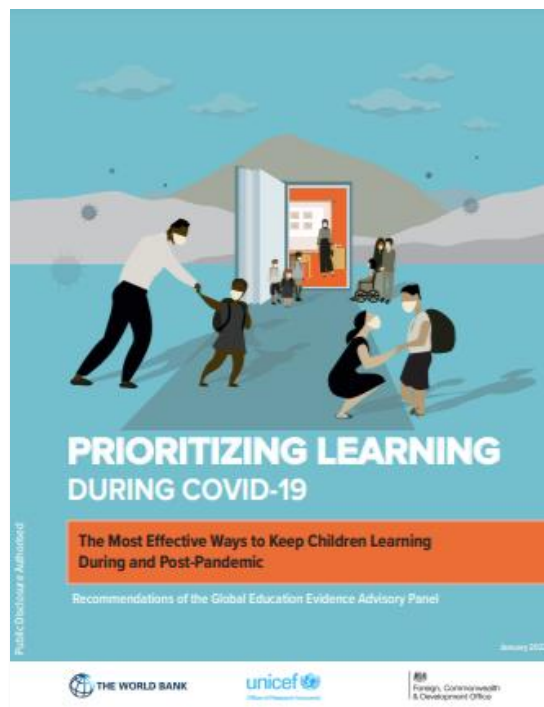
# GEEAP Products

Most recent:

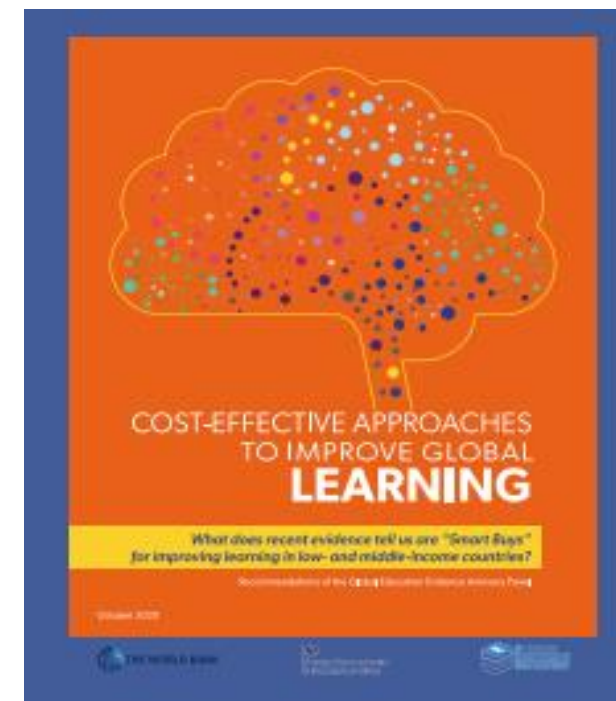
Previous GEEAP publications:



**2023 Cost-effective Approaches to Improve Global Learning**



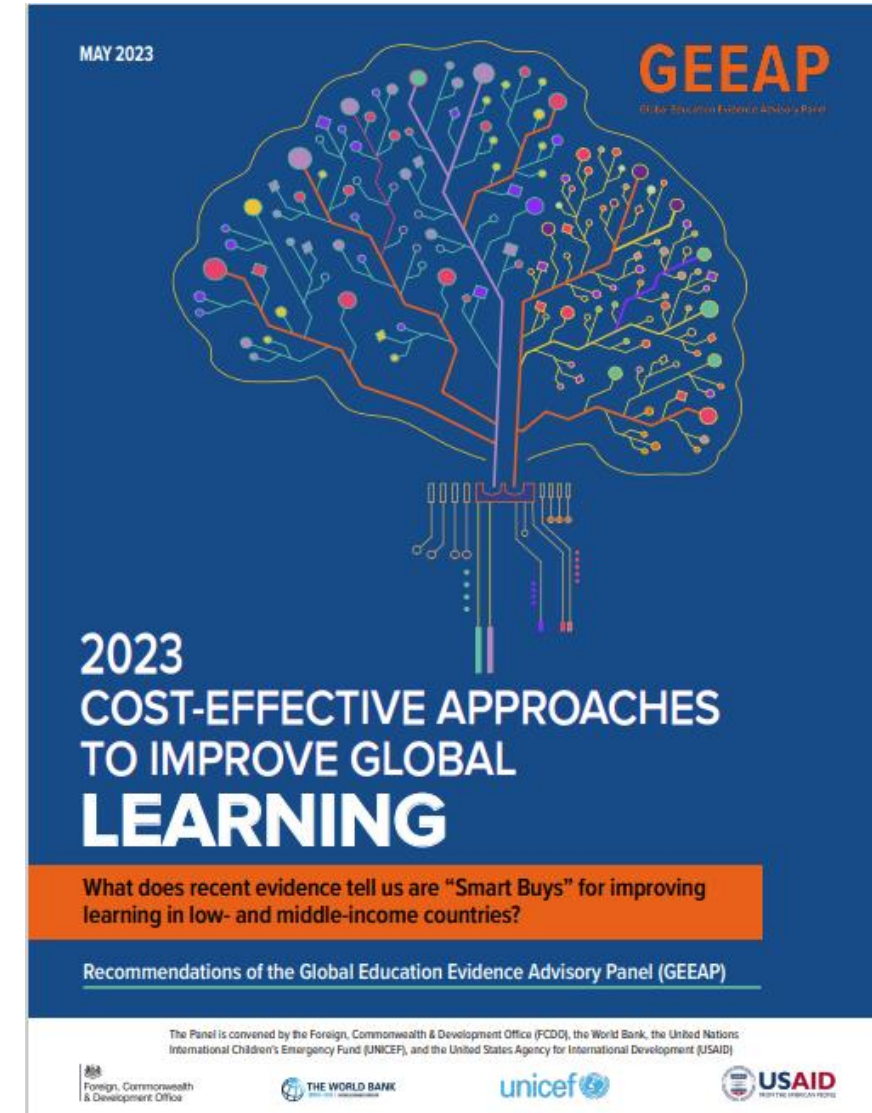
**Prioritizing Learning During Covid-19**



**Cost-Effective Approaches to Improve Global Learning (2020)**

# 2023 “Smart Buys” Report

- “What works” in a **cost-effective way at scale** in **low- and middle-income countries**
- Recommendations for policymakers, based on high-quality evidence
- Update from 2020 Smart Buys report:
  - Based on systematic search of over 13,000 additional studies → 400 studies selected to inform the Panel’s recommendations
  - New areas: health interventions; gender; socioemotional; expanded ECD/ECE





# “Smart Buys” Report Groupings

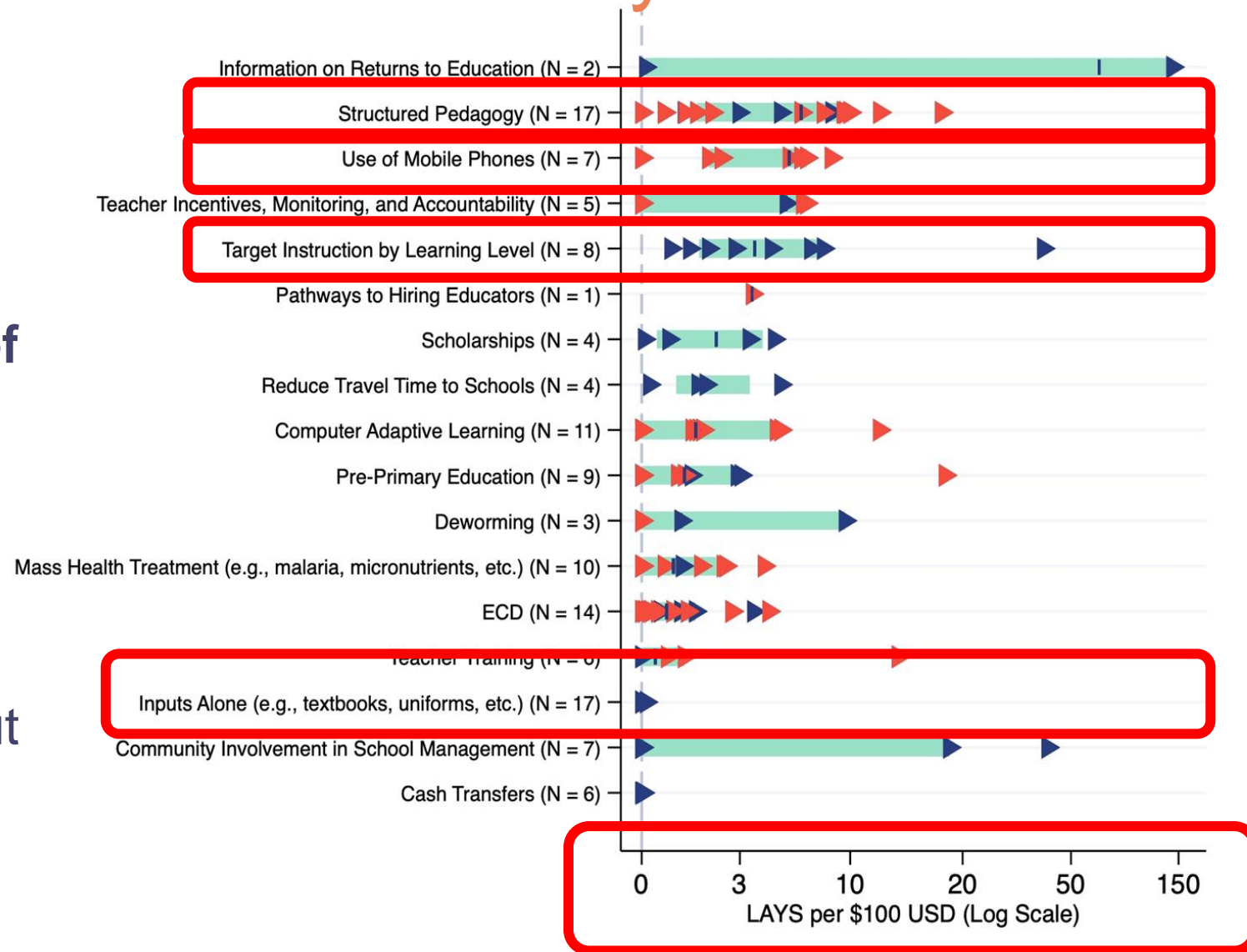
The Panel groups different interventions and classes of education interventions into the following **tiers of cost-effectiveness**, reflecting both size of impact and strength of evidence:



And there are areas where governments need to make decisions or take action but evidence on how to do it effectively is low.

# Systematic Search and Cost Analysis

- Use insights from systematic search to identify differences in **effectiveness** and **cost-effectiveness** by orders of magnitude.
- Results in terms of **Learning-Adjusted Years of Schooling (LAYS)**
- Analyzing cost-effectiveness was one input of many into decision process for categorizing interventions



Notes: Data from Angrist et al (2020) in blue. Categories are ordered by median impact. Rectangle delineates 25th and 75th percentiles.

# Context is crucial ...

- **Context, political economy, and implementation details** are critical. Complementarity may play crucial role in
- cost effectiveness.
- Outcome depends on the quality of implementation.

## ... and systems need to be aligned

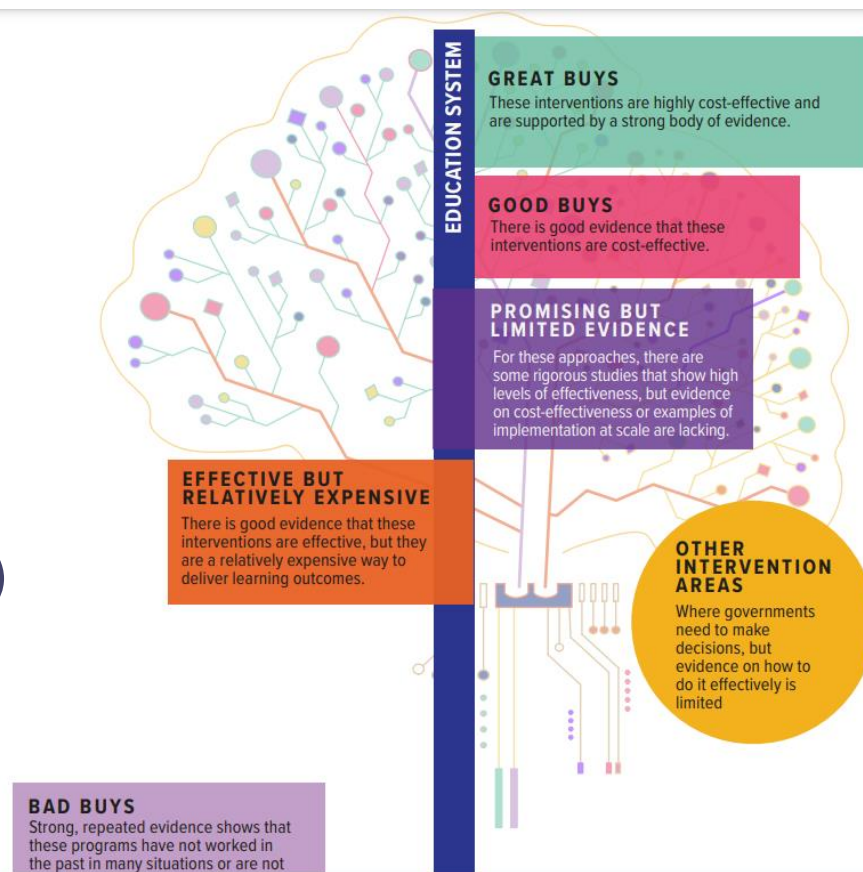
- Ensuring learning for all children and youth requires **an education system that is coherent and aligned** toward learning for all





# Highlights

- Great Buy: Supporting teachers with **structured pedagogy**
- Great Buy: **Targeting teaching instruction** by learning level, not grade
- Good Buys: Parent-directed **early childhood** stimulation programs and quality **pre-primary education** (ages 3-5)
- Promising but with limited evidence: **technology** investments
- Bad Buys: Providing **inputs alone** (incl. tech hardware)



# Supporting teachers with structured pedagogy

- Consists of a **coherent package** of materials and appropriate training emphasizing sequential and clear delivery of learning; a package that includes structured lesson plans, learning materials, and ongoing teacher support
- Typically, **lesson plans** and/or **teaching guides** can illustrate step-by-step learning activities, important lesson routines, concepts, and sometimes common mistakes students make, and ways to remedy them.
- *Examples:* Has increased learning at relatively low cost in **Kenya, Liberia, and South Africa**, especially improving foundational literacy and numeracy.



Great Buy

## Context:

- Can be effectively implemented even by teachers with limited training or poor outcomes.
- Could be less structured with teachers with high-quality pedagogical knowledge.

# Targeting teaching instruction by learning level, not grade (in or out of school)

- Includes: providing **targeted help for students who are falling behind**, and **grouping children** for all or part of the day based on their learning level rather than their age.
- Can be implemented by **government teachers, volunteers, or teaching assistants**
  - **Multiple modes of delivery** - Delivery in-school by tracking in groups without changing curriculum, after-school remediation, during holiday camps.
- *Examples:*
  - Targeted instruction programs like Teaching at the Right Level (TaRL) have been implemented in a variety of settings and evaluated rigorously (**India**).
  - A version of this approach that includes an interactive pedagogy has been tested in thousands of schools in **Ghana** and implemented at scale in **Cote d'Ivoire** and **Zambia**.



**Great Buy**

## **Context:**

Effective with wide variety of learning levels within a class, and where student learning levels are below grade-level curriculum expectations.



# Providing information on the benefits, costs, and quality of education

- **This has increased attendance and learning** at a low cost. *Examples:*
  - Information to parents and children - through text messages or videos (e.g., Chile and Peru), parents' meetings (e.g., Madagascar, Chile, and the Dominican Republic), or school report cards (e.g., Pakistan).
  - Providing information on student learning to educators (e.g., cost-effective in Argentina, but not some other countries).
- Impact example: In **Mexico**, information on the income benefits of education improved learning outcomes; larger impacts for girls.

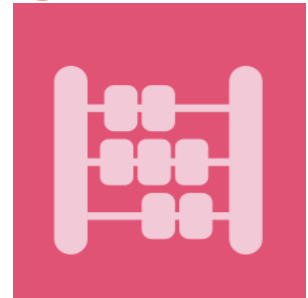


Great Buy

## Context

- Can be delivered at scale at a **low cost per child**
- Delivery method must be **tailored to the country's specific needs**
- Recipients need to have **access to decision making and the means to act on the information**

# Providing parent-directed early childhood stimulation programs (for ages 0 to 36 months)



**Good Buy**

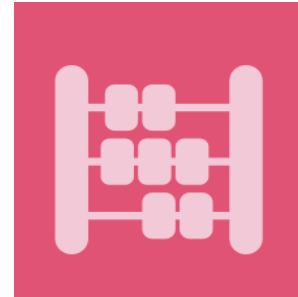
- **Programs that train parents** to provide more stimulation to their children **can generate benefits that last into adulthood**
- Home visiting program focused on early stimulation found gains in educational attainment, IQ, mental health, and earnings in adulthood (**Jamaica**).
- Most parenting studies have shown initial benefits in child development ( e.g. **Bangladesh, China, Colombia, India, and Pakistan**) and a few have been effective at scale (**Peru**).
- **Cost-effective strategies for program delivery:**  
Group sessions, integrate into existing platforms, use local people, non-professionals

## Context

- Most countries do not have established infrastructure for **large-scale** programs
- Leverage **existing platforms** – e.g., **healthcare or cash transfer programs**
- **Quality is important:** requires on-going mentoring /monitoring with feedback

# Providing quality pre-primary education (for ages 3 to 5)

- Poor early development in disadvantaged children a massive problem
- Multiple reviews demonstrate the **positive impact of pre-primary on learning and cognitive development** in children aged 3-5 in LMIC.
- Several studies found **improved learning at scale**, including teacher training or hiring in India and Kenya, or expanding infrastructure in Uruguay
- Constructing **new facilities increased** school participation in Argentina and cognition in Mozambique but **reduced** cognition in Cambodia.
- **Gains** made in pre-primary education **may fade over time if children transition to poorly integrated** primary education **programs and vice-versa**



**Good Buy**

## Context

Cost-effective interventions need to provide better experience than children's homes.



# Promising but with limited evidence: technology investments

- Using software that allows personalized learning and adapts to the learning level of the child (where hardware is already in schools)
  - Studies from Cambodia, China, India, and other countries – after school
  - Using computer-assisted learning during school: evidence is less robust
  - Very limited evidence at scale or with governments implementing
- Leveraging mobile phones to support learning
  - Short text messages via mobile phones to nudge engagement with content: reduced dropout rates (Brazil); improved learning (Costa Rica).
  - Informing parents about their pupil's performance via text message: improved learning outcomes (Chile).
  - However, in Botswana, text messages alone to deliver numeracy questions did not improve test scores; effective only when accompanied by live tutoring calls.



Promising



Promising

# “Bad Buys” if investing in hardware or additional education inputs (incl. hardware) alone

- Interventions where the evidence has repeatedly shown that the approaches—as typically implemented—are either not effective or not cost-effective.
  - Investing in hardware like laptops, tablets and computers alone
  - Providing additional inputs alone, when other issues are not addressed, including: textbooks, additional teachers to reduce class size, school buildings, grants, salary, libraries



**Bad Buys**

**→ School systems should strongly consider prioritizing the much more cost-effective interventions.**

# Intervention categories in GEEAP report

## Great Buys

These interventions are highly cost-effective and are supported by a strong body of evidence.

- Supporting teachers with **structured pedagogy** (a package that includes structured lesson plans, learning materials, and ongoing teacher support)
- **Targeting teaching instruction by learning level**, not grade (in or out of school)
- Providing **information on the benefits, costs, and quality** of education

## Good Buys

There is good evidence that these interventions are cost-effective

- Providing **parent-directed early childhood stimulation** programs (for ages 0 to 36 months)
- Providing **quality pre-primary** education (for ages 3 to 5)
- **Reducing travel times** to schools
- Giving **merit-based scholarships** to disadvantaged children and youth
- ❖ Administering **school-based mass deworming** where worm-load is high

❖ Means new addition in the report



# Intervention categories in GEEAP report *(continued)*

## Promising but limited evidence

For these approaches, there are some rigorous studies that show high levels of effectiveness, but evidence on cost-effectiveness or examples of implementation at scale are lacking.

- Using **software that allows personalized learning** and adapts to the learning level of the child (where hardware is already in schools)
- Leveraging **mobile phones** to support learning
- ❖ Augmenting teaching teams with **community-hired staff**
- **Involving communities** in school management
- Targeting **interventions towards girls**
- ❖ **Safeguarding** students from **violence**
- ❖ Teaching **socio-emotional and life skills**
- ❖ Providing **mass treatment for common health conditions** including free eyeglasses, multi micronutrients, and preventative malaria treatment

## Effective but relatively expensive

There is good evidence that these interventions are effective, but they are a relatively expensive way to deliver learning outcomes. They might be appropriate for school systems with larger budgets or to achieve non-education objectives.

- **Transferring cash** (as a tool for improving learning)

### ❖ Feeding in Primary Schools

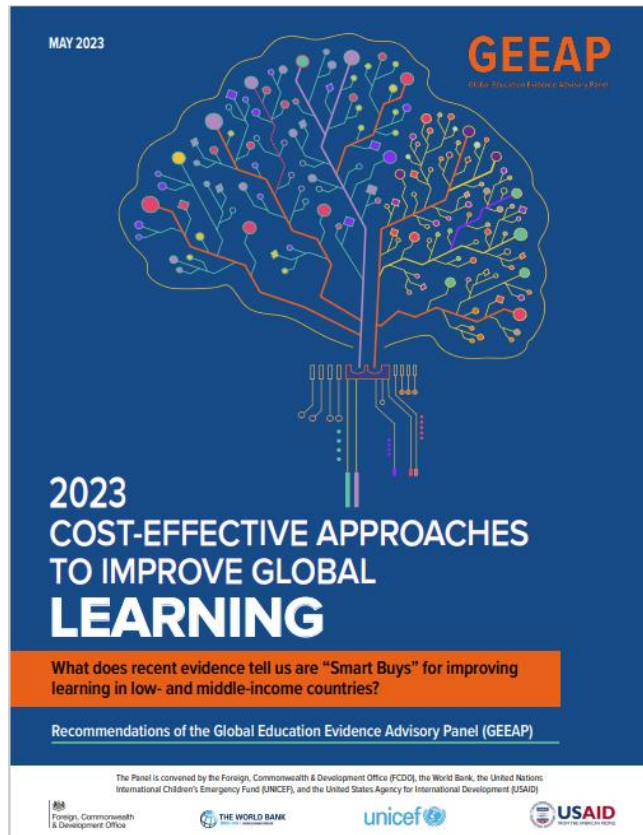


❖ Means new addition in the report

# Thank you

# Access the report here:

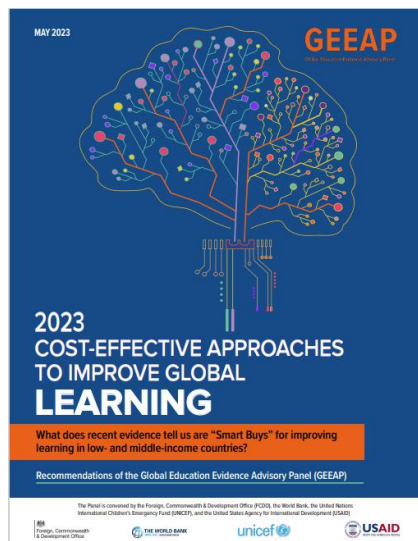
<https://tinyurl.com/yx327b65>





# Thank you!

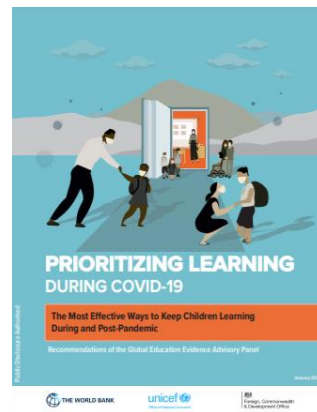
## Previous GEEAP publications:



### 2023 Cost-effective Approaches to Improve Global Learning

**Link:**

<https://tinyurl.com/yx327b65>



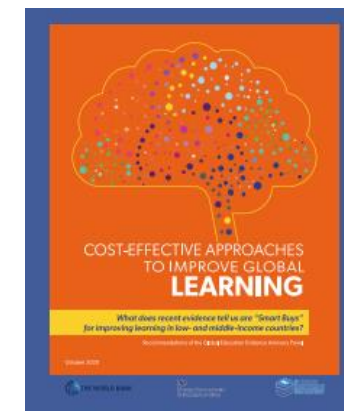
### Prioritizing Learning During Covid-19

**Publication link:**

<https://bit.ly/3rWrAkW>

and

<https://bit.ly/3u3EHmP>



### Cost-Effective Approaches to Improve Global Learning (2020)

**Publication Link**

<https://bit.ly/3nHwzEu>

#### Disclaimer:

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The judgments are the panel's own, drawing on their reading of the available research and evidence; their conclusions do not necessarily reflect the policy positions of the panelists' institutions, or of the convening and hosting institutions.