How to apply Smart Buys evidence in country education investment decisions?
Global Education Summit – Side Event
July 23, 2021
Introduce yourself: Name, country and ...

What is your professional interest in evidence being used in country policy and investment decisions?

Please put your answer in the chat.
Agenda

Welcome

GEEAP and Smart Buys
- Why Smart Buys?
- What are they based on and how were they developed?
- What are its recommendations?

How to use the Smart Buys

Contextualization Examples
- Template
- Examples
Speakers

Kwame Akyeampong
The Open University

Rachel Glennerster
FCDO

Halsey Roger
The World Bank

Moitshepi Matsheng
Young 1ove, Chairperson of the Botswana National Youth Council

Noam Angrist,
Young 1ove, Oxford & the World Bank

Tom Dreesen
UNICEF Office of Research - Innocenti
GEEAP and Smart Buys

- Why Smart Buys?
- What are they based on?
- How were they developed?
To address learning gaps, we need both local context knowledge and global evidence

Governments and donor organisations develop deep understanding of context, and system and diagnose needs and priorities

Locally decide which of these Smart Buys address local need and can be implemented well locally alongside wider system reform.

Panel hopes to provide clear recommendations based on rigorous research. These are generalized lessons on what are the Smart Buys in education for LICs and MICs.
Establishment of the Global Education Evidence Advisory Panel

Professor Kwame Akyeampong
- 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.

Professor Susan Dynarski
- Professor of Public Policy, Education and Economics, University of Michigan (Joining Harvard in 2021)
- 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.

Professor Tahir Andrabi
- Inaugural Dean, LUMS School of Education, and Professor of Economics, Pomona College

Dr Rachel Glennerster
- Chief Economist, Foreign, Commonwealth and Development Office (FCDO)
- Expert on assessing cost-effectiveness of alternative interventions to reduce poverty, including in education. Researcher and policy advisor.

Dr Benjamin Piper
- Senior Director, Africa Education, RTI International
- Education expert who has done transformative work on the Tusome national scale literacy program in Kenya (link) and the PRIMR Initiative, which tested low-cost and scalable approaches to improving reading and mathematics outcomes in Kenya.

Jaime Saavedra
- Former Minister of Education of Peru, currently head of the Education global practice at the World Bank;
- Researcher and policymaker with extensive expertise on education, inequality and poverty reduction.

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

Emeritus Professor 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. Recently made an Officer of the Most Excellent Order of the British Empire (CBE).

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

Dr Rukmini Banerji
- CEO, Pratham Education Foundation
- Innovator in new pedagogical approaches and assessment, leader of large movement to transform education in India and beyond.

Professor Karthik Muralidharan
- Professor of Economics, University of California San Diego
- Global co-chair of education at J-PAL (Lead Principal Investigator in India for Research on Improving Systems of Education (RISE) program

Professor Hirokazu Yoshikawa
- Professor of Globalization and Education, NYU Steinhardt
- Community and developmental psychologist, has done extensive research across the U.S., LICs and MICs, with a particular focus on early childhood and inequality.
Selection criteria for inclusion in Smart Buys

• Key outcome is foundational learning in basic education

• Focus on cost-effectiveness

• Greater weight given to evaluations conducted at scale and to longer-term impacts

• Equity focus - interventions shown to promote learning for all, and especially for more marginalized children, rather than for the elite

• Panelists have brought their diverse expertise to interpret the evidence; this is not just a counting exercise

• The Panel recognizes the importance of local context and views the Smart Buys document as a starting point for discussion. Each country and challenge will have a different solution.
Smart Buys informed by LAYS

Cost-effectiveness:
Learning-adjusted years of schooling (LAYS) gained per $100 (log scale)

Giving information on education benefits, costs and quality (N=2)
Interventions to target teaching instruction by learning level not grade (in or out of school) (TaRL) (N=9)
Structural lesson plans w/ linked materials and ongoing teacher monitoring & training (N=4)
Community involvement in school management (N=8)
Teacher accountability and incentive reforms (N=3)
Targeted interventions to reduce travel time to schools (N=6)
Giving merit-based scholarships to disadvantaged children and youth (N=3)
Early childhood development (ECD) (N=8)
Cash transfers (as a tool to improve learning) (N=6)
Additional inputs alone (textbooks, class size, laptops/tablets, grants, libraries, etc) (N=16)
General-skills teacher training (in-service) (N=3)
## Tiers of Smart Buys

We group educational interventions and categories of interventions into the following tiers, reflecting their **cost-effectiveness at improving learning** and the **strength of the evidence**

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GREAT BUYS</strong></td>
<td>These interventions are highly cost-effective and are supported by a strong evidence base.</td>
</tr>
<tr>
<td><strong>GOOD BUYS</strong></td>
<td>There is good evidence that these interventions are cost-effective.</td>
</tr>
<tr>
<td><strong>PROMISING BUT LOW-EVIDENCE</strong></td>
<td>For these approaches, there are some small but rigorous studies that show high levels of cost-effectiveness, but overall the evidence base is more limited.</td>
</tr>
<tr>
<td><strong>BAD BUYS</strong></td>
<td>Strong, repeated evidence shows that these programs have not worked in the past in many situations or are not cost-effective.</td>
</tr>
</tbody>
</table>
There is good evidence that the interventions in this category can be highly cost-effective across a variety of contexts.
• **Problem:** Often there is a wide variety of learning levels within a class – and individual student learning levels are below grade-level curriculum expectations.

• **How it works:**
  - targeted help for students who are falling behind
  - grouping children for all or part of the day based on their learning level (vs age)
  - via government teachers, volunteers, or teaching assistants
  - implemented during school, make-up classes after school, or during holidays

• **Smart examples:**
  - IPA undertook a structured approach in Ghana using national volunteers with selected periods during the school day.
  - another cost-effective approach in Botswana used mobile phones to send targeted messages based on children’s learning levels.

• **Context:** These interventions are effective where there is a wide variety of learning levels within a class and student learning levels are below grade-level curriculum expectations (as in many LICs and MICs).
Promising but low-evidence

For these interventions, the evidence is limited, but the available findings suggest that these approaches can be highly cost-effective. More testing to develop scalable models is recommended.
Promising but Low-Evidence: Example

- **Problem**: Providing feedback to schools through community involvement (India, Indonesia, Gambia) or better data on teachers and students (Indonesia) has often had little impact. Where involving community members in school management has worked (Indonesia, Uganda, Kenya), however, it is very cost-effective.

- **Smart examples**: A feature of successful interventions (Indonesia, Kenya) has been explicitly linking school committees that involve community members with higher levels of authority.

- **More research needed**: More work testing different designs needed to understand when and why it works, including composition, government structures, and complementary mechanisms, all of which appear to be important for effectiveness.

- **Context**: May be most promising where power asymmetries between school authorities and parents is not too great, and where there are potential complementary sources of accountability for schools (such as well-functioning local governments to which community members have good access); unfortunately these are also the settings where the need for these interventions might be less.
Strong, repeated evidence that these programs have not worked in the past in many situations or are not effective or cost-effective. We should stop doing them unless there is a carefully thought-out rationale.
Investments in laptops, tablets and other computer hardware alone

Bad Buys Example

- **Problem with hardware alone:**
  - tempting for politicians who want to show progress
  - new materials and infrastructure more visible
  - often especially expensive.

- **Examples:**
  Need to be accompanied by well-thought-out complementary measures—including personalized adaptive software and training of teachers on how to use the software—adding computers has no impact.

- Implementation issues are a recurring challenge in hardware programs; an example is the lack of a coordinated approach in the One Laptop per Child scheme in Kenya.

- **What to do instead:** Using technology that is already available.
Smart Buys need to be part of systemic reform

- Individual interventions are not all that matters – **systemic reform** is crucial for sustainable systemwide improvements in learning.
- Requires an education system that is **coherent and aligned toward learning**, and alignment should encompass the key system actors, policies, incentives, pedagogy, and capacity.
- This in turn requires **political commitment** from the top to help systems escape low-learning traps (e.g., Brazilian state of Ceará, which has made remarkable gains over a decade).
Areas where governments nevertheless need to make decisions or take action but evidence on how to do it effectively is low

- General-skills teacher training (in-service)
- Selection and allocation of teachers
- Differentiating support by gender (if falling behind on access or learning)
- Targeted support for children living with disabilities
- Interventions to safeguard students from violence

*Not a comprehensive list*
Interpreting these findings: Considerations and gaps highlighted by the Panel

- **Gaps** (e.g., the Health-Education link) will be filled in Smart Buys updates
- **COVID-19** has changed the context – this is critical for contextualization
- **Systems reform** is crucial, and so are *complementarities* among interventions (e.g., reinforcing early-years interventions with higher-quality primary education)
- **Implementation conditions** and understanding of implementation science are central to applying in context
- Future **papers and updates** to the Smart Buys will aim to fill gaps and expand on implementation
How to Use the Smart Buys
How to use the Smart Buys

**Audience** – Recommendations aim to be useful for technical staff in Ministries of Education, donor agencies, local education groups, and non-profit organizations thinking through appropriate interventions.

**Context** – Guidance should be combined with an assessment of context-specific needs and implementation constraints.

**Applicability during the COVID-19 pandemic** – Recommendations are needed more than ever: children need to catch up on foundational learning after school closures, and budgets are even more constrained than normal due to the global economic downturn.

**The importance of providing good information on effectiveness and cost-effectiveness** – Most education spending in developing countries is by the governments themselves, so leveraging it is crucial.
Increasing awareness about the evidence

- **Global dissemination** in many forums (e.g., global launch, CIES 2021, TIESS 2021, Education Commission Asia, global WB/FCDO staff event)

- **Smart Buys Report**: downloaded over 12,000 times in 149 countries

- **Background paper**: downloaded almost 7,200 times
Contextualization examples
In-country conversations

- Kicked off conversations with policymakers & technical staff in several countries in **Africa and Asia**
  - Ethiopia, Lebanon, Pakistan, Southeast Asian countries so far
  - Numerous others planned
- Conversations involve **adapting to country context**
  - Understanding the local challenges
  - Identifying what global evidence is relevant and
  - Figuring out how to contextualize that evidence
- **High-level examples**
  - Excellent vehicle for engaging ministers on possibilities (e.g., Pakistan states)
  - Cost-effectiveness theme helps
**Template for country consultations**

**System-level enabling environment:**
e.g., is learning measured?

<table>
<thead>
<tr>
<th>S.No/ Intervention</th>
<th>Reform focus</th>
<th>Financial investments (external and domestic)</th>
<th>Baseline (Mar 21)</th>
<th>Year 1 (Apr 21-Mar 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section A- Existing data and analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Which tools or learning diagnostic(s) are being used in country to guide government’s policy and planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>Has there been an assessment of the curriculum against learning levels?</td>
<td></td>
<td></td>
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<tr>
<td>(iii)</td>
<td>Has there been an assessment of how teachers are selected and allocated with an equity lens?</td>
<td></td>
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</tr>
<tr>
<td>(iv)</td>
<td>Is there availability of robust learning data? Please specify if government and/or citizen led?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(v)</td>
<td>Is EMIS data used and disseminated for accountability at school level</td>
<td></td>
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</tbody>
</table>
Which smart buys are a good fit? Which aren’t?

Section B – Relevance and uptake of Smart Buys evidence in country context: Please fill in this section each year (for relevant interventions, please update uptake status in onwards years)

<table>
<thead>
<tr>
<th>SMART BUYS</th>
<th>Reform focus</th>
<th>(ii) Relevance (select) and comment on country context</th>
<th>Financial investment please provide external and domestic budgets with timeframes</th>
<th>(iii) Uptake Status (select) and comment</th>
<th>Baseline (Mar 21)</th>
<th>Year 1 (Apr 21-Mar 22)</th>
</tr>
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<tbody>
<tr>
<td><strong>Good buys</strong></td>
<td>2. Structured lesson plans with linked materials and ongoing teacher monitoring and training</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Target teaching instruction by learning level, not grade (in or out of school)</td>
<td>Comment (EA assessment):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Reduce travel times to schools</td>
<td>Comment (EA assessment):</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>5. Giving merit-based scholarships to disadvantaged children and youth</td>
<td>Comment (EA assessment):</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>6. Using software that adapts to the learning level of the child (where hardware is already in schools)</td>
<td>Comment (EA assessment):</td>
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<tr>
<td></td>
<td>7. Pre-primary education (ages 3-5)</td>
<td>Comment (EA assessment):</td>
<td></td>
<td></td>
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Botswana example

- High rates of schooling
  → 90% net enrollment

- Low rates of learning
  → only 10% of grade 5 students can do simple 2-digit division (far behind grade-level expectations)

- Government priority to improve learning using “outcomes-oriented” approaches

→ Education and Training Sector Strategic Plan
## Botswana Example

<table>
<thead>
<tr>
<th>Type</th>
<th>Intervention</th>
<th>Fit/No Fit</th>
<th>Comment on country context</th>
<th>Pilot</th>
<th>Scale</th>
<th>Policy</th>
<th>Policy: Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Good buy</strong></td>
<td>Target teaching instruction by learning level, not grade</td>
<td>Fit</td>
<td>Falling behind grade level; primary students typically 2-3 grade levels behind (SACMEQ)</td>
<td>Done</td>
<td>On Track</td>
<td>Largely</td>
<td>Somewhat ~ $2 million currently invested in-kind by government</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Falling behind on basics; only 10% of grade 5s can do 2-digit division (Pansiri et al 2019)</td>
<td></td>
<td></td>
<td></td>
<td>Next</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Heterogeneity: 3x variation higher in school than across (Pansiri et al 2019)</td>
<td></td>
<td></td>
<td></td>
<td>Need to secure dedicate line items</td>
</tr>
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</table>

Start with the local context and the goals of the country/ministry/region, then examine how the Smart Buys can provide guidance.
### Botswana Example (ctd.)

<table>
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<tr>
<th>Status</th>
<th>Policy: Funding</th>
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<tbody>
<tr>
<td>Good buy</td>
<td>Somewhat</td>
</tr>
<tr>
<td></td>
<td>~ Government investments in building new classrooms, repurposing existing ones</td>
</tr>
<tr>
<td></td>
<td>~ Investment in teacher training and pedagogy lagging behind</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Pre-primary education</td>
<td>Fit</td>
<td>Students often enter school with widely varying ages, socioeconomic backgrounds, and learning levels (SACMEQ, Pansiri et al 2019)</td>
<td>Done</td>
<td>On Track</td>
<td>Largely</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Over 50% of all schools have now added pre-primary / ECD classrooms (partnership between Ministry of Education, Ministry of Local Government, UNICEF)</td>
<td></td>
<td>On track to national scale-up by 2025</td>
<td>ETSSP</td>
<td></td>
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<tr>
<td><strong>Bad buy</strong></td>
<td>Additional inputs alone, when other issues are not addressed, including: textbooks, additional teachers to reduce class size, school buildings, grants, salary, libraries</td>
<td><strong>Fit</strong></td>
<td>Very popular approach, although does not seem to work. At an aggregate level, for example, great infrastructure for schools in Botswana, but worse learning outcomes than poorer regional neighbors (e.g. Kenya). One more specific example, during covid-19 the government rolled out “wifi hotspots” caravans and got almost no take up. Before covid-19 tablets have been deployed in many schools but are unused and locked in closets.</td>
<td><strong>Popular strategy</strong></td>
<td><strong>Popular strategy</strong></td>
<td><strong>Popular strategy</strong></td>
<td><strong>Popular strategy</strong> (e.g. school construction and World Bank loans)</td>
</tr>
</tbody>
</table>

Resources typically made available for these types of activities.
Thank you!

Resources:
GEEAP: https://bit.ly/32F0uCq
BE² Cost Guidance Note: https://bit.ly/3sUttgl

Contact information:
Secretariat@building-evidence-in-education.org