

Scaling Up Measurement in Early Childhood

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Education Global Practice
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Scaling up measurement in early childhood: Introduction

- Objective: To support countries to measure early childhood outcomes (primarily ages 4-6) and the quality of early learning environments, while simultaneously working towards the generation of globally-comparable data
- Focus on measuring at scale (e.g., population level monitoring) to inform policy
- Opportunity to capitalize on global engagement to:
 - Increase efficiencies and synergies for country teams and governments
 - Ensure alignment and complementarity with other ECD efforts and partners (e.g., UNICEF, WHO, Save the Children)
 - Work towards a global database of early childhood outcome data that can benefit research and policy

How is the World Bank supporting early childhood measurement efforts globally?

Developing tools for teams and governments to use to scale up measurement in early childhood

Guidance materials and resources

Knowledge sharing/training opportunities

Pool of consultants to support measurement efforts

Coordination and collaboration within and outside the Bank

Agenda

- Presentation on ECD COVID-19 Phone Survey (*10 min*)
 - Clarification Q&A (*5 min*)
- Presentation on Anchor Items for Measurement of Early Childhood Development (AIM-ECD) (*10 min*)
 - Clarification Q&A (*5 min*)
- Presentation on Teach ECE (*10 min*)
 - Clarification Q&A (*5 min*)
- General Discussion (*30 min*)
- Closing (*5 min*)

ECD and COVID-19 Survey: Development and cross-country results



Diego Luna-Bazaldua



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Context of the pandemic

- Direct and indirect impacts of the pandemic: physical and mental health, education, socialization, among others.
- Families and children –particularly those living in fragile and impoverished conditions– are at the highest risk of being left behind.
- In order to support families with young children, more information is needed about how they are coping and how their family situation has changed since the pandemic started.





ECD & COVID-19 phone survey

- Phone surveys to caregivers as an alternative to in-person data collection efforts.
- Limitations: sampling, non-response, accuracy verification.
- Consultation of existing measuring tools: UNICEF MICS-6; WB Poverty GP surveys; Rapid EC survey; Fantuzzo et al. (2000); Ritcher et al. (2020); Reach Up! Parental manual.
- Rolled out in six countries.





ECD & COVID-19: structure and content

- Core survey (40 questions).
 - Background information.
 - Household characteristics
 - Parental support at home.
 - Engagement with educational contents at home.
 - Context and COVID-19.
 - Internalizing/externalizing behavior.
 - Child discipline.
- Additional modules.
- Supporting materials.

Parental Support at Home.

- *Please let me know if, during the last 3 days, did you or any household member age 15 or over told stories to (child's name)?*

Engagement with educational contents at home.

- *In the last 15 days, has your child accessed free learning content on television.*

Internalizing/externalizing behavior.

- *In the last 15 days, please let me know if your child has been destroying or damaging things more than usual.*



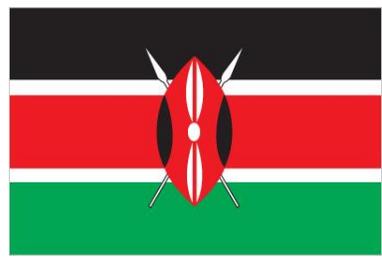


Results from Ethiopia

- Uneven access to home learning resources can widen the learning gap, particularly for families in rural locations.
- Only half of caregivers were able to engage in supporting learning activities for pre-primary children. A very small proportion of caregivers were in contact with school staff
- Parents report higher rates in children's stress and anxiety, as well as less motivation in learning at home.

Note: In Ethiopia, data were collected by the Ethiopian Policy Studies Institute, Addis Ababa University, and the University of Cambridge. Thanks to Mesele Araya, Chanie Ejigu, Belay Hagos, Janice Kim, Pauline Rose, and Tassew Woldehanna.





Results from Kenya

- During the peak of the lockdown, one out of every nine children under the age of four went to bed hungry in the last week.
- Access to healthcare services decreased when the pandemic started, poor households have less access to healthcare services even after the lockdowns.
- Availability of books and other learning materials at home is low, particularly for children in rural areas
- Children under the age of three are less likely to receive stimulation from their parents.

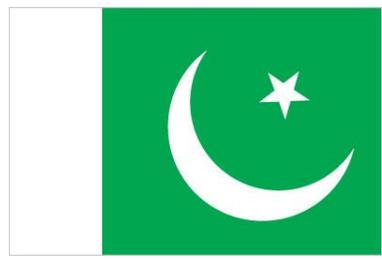




Results from Mexico

- A strong unemployment shock that was much larger for mothers and the poor
- The pandemic affected children's nutrition and food security
- There also was a huge childcare shock that affected mostly the children's mothers
- A large share of children were left unsupervised by adults and/or watched more "screens" than before the Pandemic
- Access to key health and education services was severely restricted.
- A large share of caregivers show signs of stress and violent discipline





Preliminary results from Pakistan

- By the time the survey took place, 33 per cent of boys and 29 per cent of girls have been in school for less than one month since March 2020.
- The emotional well-being for some children has deteriorated particularly for those in the poorest households.
- The emotional distress of young children due to the pandemic is more pronounced for children with less educated parents, and parents' own anxieties and behaviors are also associated with emotional distress of their children
- High parental engagement with children.



Thank you

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Anchor Items for the Measurement of Early Childhood Development

Adelle Pushparatnam



Motivation

- Various global initiatives to promote measurement of children's development in the preschool years (4-6 year olds)
 - MELQO, eHCI, EAP-ECDS, PRIDI, IDELA
- BUT difficult to get an accurate view of how preschoolers' development varies globally because measures do not always capture the same constructs in the same way

Motivation

One way of linking tools is by embedding a common set of items in each tool.

The common set of items needs to:

Be short enough to add to existing tools/be supplemented with additional items

Demonstrate acceptable psychometric properties across a range of contexts

Be accessible to a wide range of stakeholders, along with guidance on implementation

Goal

Identify a core set of items that measure key developmental domains for children aged 4-6 (48-83 months) that demonstrate adequate psychometric properties across multiple contexts

Starting point for:

1. Linking across different measurement tools for children aged 4-6
2. Increasing quality across measurement efforts (especially when supplemented by standardized guidance materials for implementation)
3. Facilitate the scale up of early childhood measurement globally

Methods: Identification of core set of items

**MELQO data
recovery and
organization**

- Data from 12 countries

**Data
harmonization**

- Use of harmonization template.
- Development of guide for harmonization.

**Psychometric
analyses**

- Use of CTT, CFA, and IRT frameworks for item-level analyses.

**Identification
of core
items**

- Identification of core items with consistent and satisfactory psychometric properties by domain.

Anchor Items for Measurement of Early Childhood Development (AIM-ECD)

- Two consecutive cycles of psychometric analyses allowed us to identify items with satisfactory psychometric properties across countries.

Domain	Caregiver report questionnaire	Child Direct Assessment
Early Literacy	5 items	27 items in 5 tasks
Early Numeracy	6 items	29 items in 7 tasks
Executive Functioning	9 items	27 items in 3 tasks
Social-Emotional		1 item

*Note: These items **do not** capture all relevant data for all early childhood measurement purposes*

For more information:



Measuring Early Childhood Development Among 4–6 Year Olds: The Identification of Psychometrically Robust Items Across Diverse Contexts

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The last 15 years have seen an explosion of measurement tools for assessing the development of young children in low- and middle-income countries. This paper builds on and contributes to that literature by identifying a core set of caregiver-report items and a core set of direct assessment items that measure key developmental domains for children aged 4–6 (48–83 months) and that demonstrate adequate psychometric properties across diverse contexts, the first in this age group to the authors' knowledge. Data were harmonized from previous early childhood measurement efforts in 12 countries that all used the same base measurement tool. Data analyses yielded 20 caregiver report items and 84 child direct assessment items (grouped into 16 tasks) that show strong item-level statistics across countries and that cover the domains of early literacy, early numeracy, executive functioning, and social-emotional competencies. Next steps include adding data and items from other measurement tools to the same analytical framework and field testing across a number of contexts and early childhood measurement efforts. The vision is for the resulting core sets of items, along with guidance on data collection, management, and analysis, to serve as global public goods so that they can (i) present a starting point for linking across different early childhood measurement tools for children aged 4–6; (ii) increase quality across measurement efforts; and (iii) facilitate the scale up of early childhood measurement. When supplemented with items that capture local contexts and their measurement needs, these core sets of items should help to advance understanding of universal and context-specific factors that underlie child development and thus help policymakers make decisions that ensure children receive the quality early childhood care and education they need in order to reach their full potential.

Keywords: early childhood education, caregiver report, direct assessment, cross-cultural, psychometric, early literacy and numeracy skills, social-emotional competencies, executive function (EF)

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Measuring early childhood outcomes comparably across countries without sacrificing local relevance: can it be done?

ADELLE PUSHPARATNAM & DIEGO LUNA-BAZALDUA | FEBRUARY 23, 2021

This page in: English | Español



Farmers' children at daycare. South Africa.

Ensuring that all children receive high quality early learning experiences is a crucial step towards ending Learning Poverty. Policymakers, development partners, parents, and other stakeholders need information on children's learning outcomes, and countries need to generate data in a way that can foster improvements in programs and policies. This need existed prior to the COVID-19

AIM-ECD Suite of Resources

- AIM-ECD Direct Assessment (DA)
 - **16 activities covering multiple domains of development**
 - **Centralized [Adaptation, Administration, and Training Guide](#)**
 - **Adaptation: Detailed item-by-item guidance on adapting DA with fidelity to new languages/contexts**
 - **Administration: Enumerator Booklet, Stimulus Cards, Score Sheets, and CAPI code (XLSForm)**
 - **Training: Engaging Training Slides, Schedule, Observation Checklist, and Enumerator Quiz**
- AIM-ECD Caregiver Report (CR)
 - **20 questions covering multiple domains of development**
 - **Centralized [Adaptation, Administration, and Training Guide](#)**
 - **Adaptation: Detailed item-by-item guidance on adapting CR with fidelity to new languages/contexts**
 - **Administration: Enumerator Booklet, Score Sheets, and CAPI code (XLSForm)**
 - **Training: Engaging Training Slides, Schedule, Observation Checklist, and Enumerator Quiz**
- Guidance Note
 - **Step-by-step guide for country teams to select an appropriate ECD measurement approach**

Immediate next steps

- 1) Centralize of AIM-ECD materials in an easily accessible website
- 2) Create data management documents, analysis guidelines, and template reports.
- 3) Conduct master training
- 4) Support operational teams and external partners to embed AIM-ECD items into ECD data collection efforts
- 5) Support integration of AIM-ECD into household surveys

Further down the line

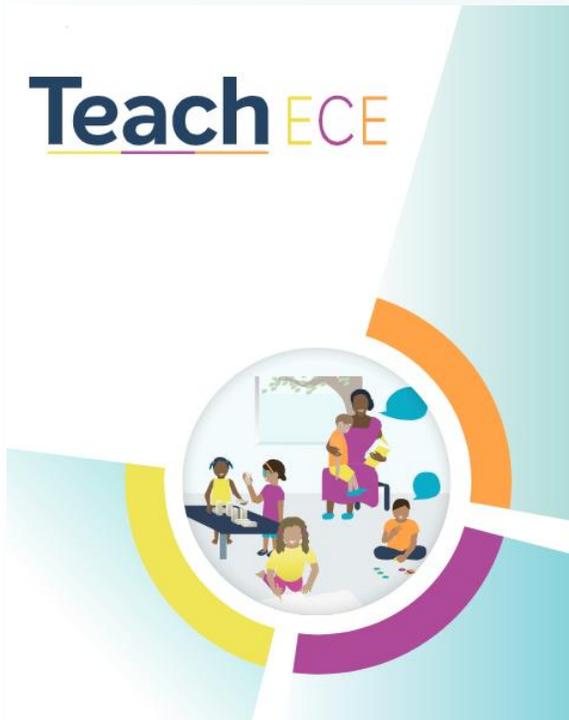
- 1) Seek out opportunities to roll out CR items alongside ECDI2010 and GSED
 - 1) Ideally working with National Statistical Offices
 - 2) Include cognitive testing
- 2) Include data from other tools into our harmonized dataset
- 3) Further analysis and dissemination of findings

Teach ECE

Classroom Observation Tool



Background



The Why:

- > Quality of ECE in LMICs is extremely low
- > A key challenge to deliver quality ECE in LMIC is the low capacity of the ECE workforce.
- > Measurement of classroom practices allows systems to better support teachers

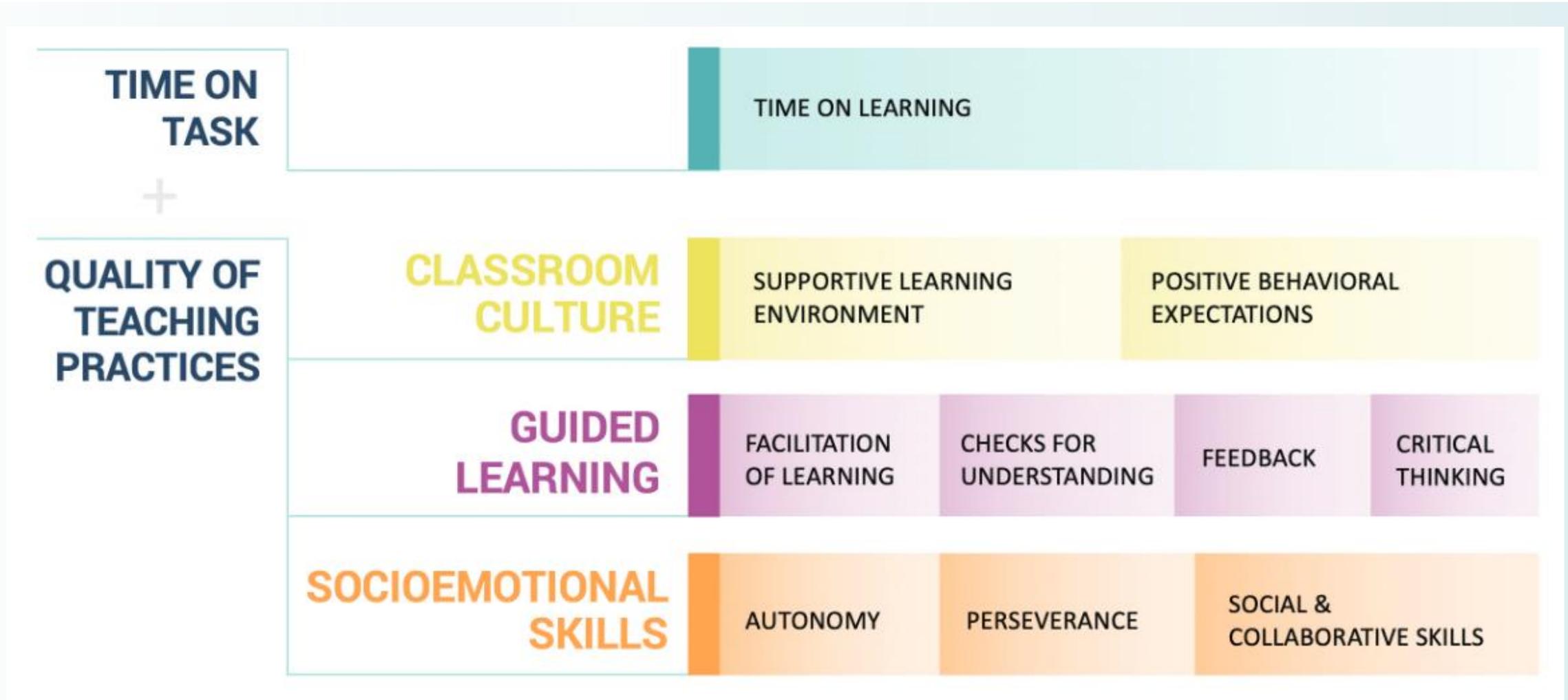
The Opportunity:

- > Create a classroom observation tool to measure process quality that is both high-inference and scalable
- > Designed with LMICs in mind, with resource-agnostic examples of quality across a spectrum of teaching practices

The Ambition:

- > To provide a framework to measure classroom practices in early childhood education
- > Contribute to the professionalization of ECE educators

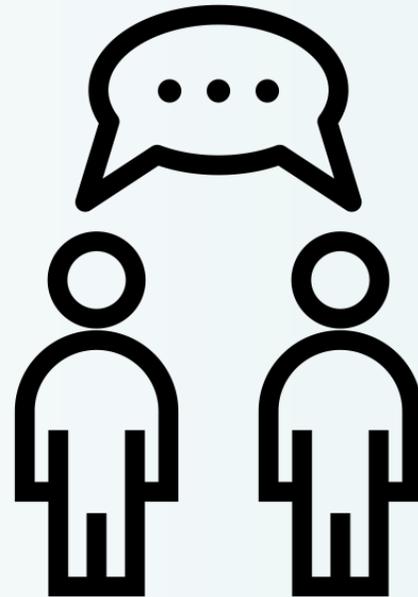
What does *Teach ECE* measure?



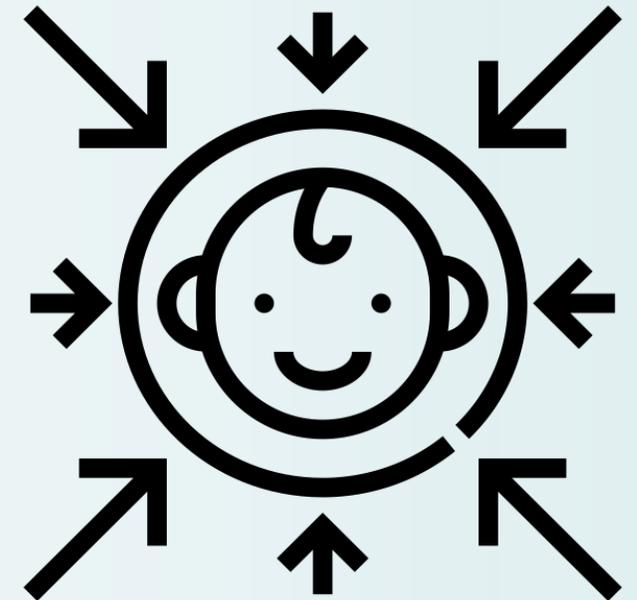
Cross-cutting themes



Inclusion



*Child-Centered
Activities*



Language Facilitation

Teach ECE Field Tool

- > Total enrolment and total number of students present
- > Safety hazards (sharp or rusting material, inadequate lighting or ventilation, etc.)
- > Facilities (clean water, toilets for girls etc.)
- > Number of children who experience physical or learning difficulties
- > Language of instruction (Lol), proportion of children who speak the same language as the Lol, number of languages other than Lol spoken
- > Time children left unattended
- > Severe negative/verbal interactions
- > Availability of resources and proportion of children given opportunity to manipulate said resources

		Boys	Girls
Compared with children of the same age, how many children in the class have (write the number of children)	A lot of difficulty seeing?		
	A lot of difficulty hearing sounds like peoples' voices or music?		
	A lot of difficulty walking?		
	A lot of difficulty picking up small objects with his/her hand?		
	A lot of difficulty communicating with others?		
	A lot of difficulty learning things?		
What is the official language of instruction?			
What proportion of children speak the same language at home as used by the teacher in the classroom?	All the children speak this language at home		
	More than half of the children speak this language at home		
	Less than half of the children speak this language at home		
	None of the children speak this language at home		

Suite of Resources

TRAINING MANUAL

TeachECE

Day 1 Script

WELCOME [20 mins]

... I am ...
... and your relationship to the ...

TeachECE

WORLD BANK GROUP

welcome to the Teach tool training! The purpose of this training is for you to understand how the tool works so that you can all pass the reliability test and become effective Teach coders for classroom observations. It is important for you to know from the start that if you don't pass the test at the end of the training, you will not be certified to carry out Teach classroom observations.

Today, we will start off with introductions, and get to know each other a little bit more. Then, we will spend most of the day studying the tool and so we may work towards coding classroom observations reliably using Teach.

This training is designed to be interactive and engaging. We'll have lots of opportunities for participation so please be engaged and ask questions. The quality of this training really depends on your active participation!

[The first dynamic is an ice-breaker, all participants are divided into groups of 4-5 people and are encouraged to introduce themselves. They then exchange information about themselves and find similarities within the entire group (or with one other person). Finally, each group (or person) shares about a topic they found out they had in common. Choose group or pair introductions based on the size of the group and what you think will work best.]

CONTENTS

1. INTRODUCTION
2. OVERVIEW
3. THE INSTRUMENT
4. PRACTICE

Teach OBSERVATION SHEET

SCHOOL ID: _____ TEACHER ID: _____ CODER ID: _____ GRADE: _____ SUBJECT: _____ SEGMENT 1 _____

CLASS SIZE girls: _____ boys: _____ SCHEDULED TIME: _____ to _____ to _____ ACTUAL TIME: _____ to _____ to _____ SEGMENT LENGTH: _____ min

TIME ON TASK

	1 st Snapshot (4-5m)	2 nd Snapshot (8-10m)	3 rd Snapshot (14-15m)
0.1 Teacher provides learning activity to most students	Y N	Y N	Y N
0.2 Students are on task	N/A L M H	N/A L M H	N/A L M H

QUALITY OF TEACHING PRACTICES

Areas / Elements / Behaviors _____ Scoring _____ Final Score _____

A. CLASSROOM CULTURE

1. SUPPORTIVE LEARNING ENVIRONMENT

	1	2	3	4	5
1.1 The teacher treats all students respectfully					
1.2 The teacher uses positive language with students					
1.3 The teacher responds to students' needs					
1.4 The teacher does not exhibit gender bias					

2. POSITIVE BEHAVIORAL EXPECTATIONS

2.1 The teacher sets clear behavioral expectations

2.2 The teacher acknowledges positive student behaviors

2.3 The teacher redirects misbehavior and focuses on positive behaviors

3. INSTRUCTION

3.1 The teacher explicitly articulates the objective

3.2 The teacher's explanation of content is clear

3.3 The teacher makes connections in the lesson

3.4 The teacher models by enacting or thinking aloud

4. CHECKS FOR UNDERSTANDING

4.1 The teacher uses questions, prompts or other strategies to check for understanding

4.2 The teacher monitors most students during instruction

4.3 The teacher adjusts teaching to the level of the class

5. FEEDBACK

5.1 The teacher provides specific comments

5.2 The teacher provides specific comments

6. CRITICAL THINKING

6.1 The teacher asks open-ended questions

6.2 The teacher provides thinking tasks

6.3 The students ask open-ended questions

7. SOCIOEMOTIONAL SKILLS

7.1 The teacher provides students with choices

7.2 The teacher provides students with opportunities to take on roles in the classroom

7.3 The students volunteer to participate in the classroom

Supportive Learning Environment: Cumulative Code _____

TeachECE

Teacher Practices in [Country]

RESULTS OF THE TEACH CLASSROOM OBSERVATION STUDY

... to which the teacher creates a culture that is conducive to learning. The ... students' negative behaviors but rather the extent to which the teacher ... environment by treating all students respectfully, consistently using positive ... and both challenging gender stereotypes and not exhibiting gender bias in ... expectations by setting clear behavioral expectations, acknowledging ... redirecting misbehavior ... moderately well on Classroom Culture. On average, they score X points out ... They were most effective/ineffective at XXX, and somewhat effective at XXX.

On average, teachers score X points out of the 5 points possible in this element ... distribution of scores for supportive learning environment and its respective ... the distribution of behaviors of the Supportive Learning environment element

Environment

X Sheet: Figure 3.4.7

1.2 Uses positive language

1.3 Responds to students needs

1.4 Gender bias and stereotypes

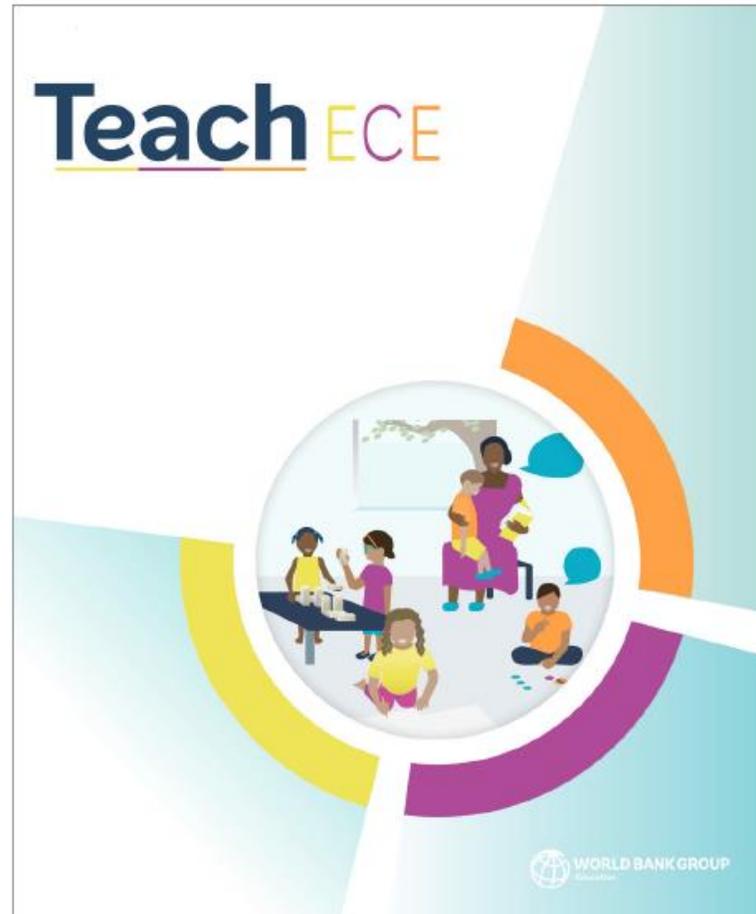
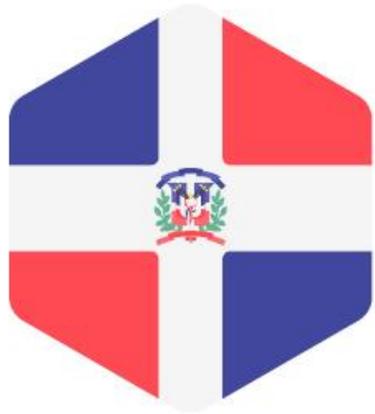
Results of the Country Teach Observation Study | 18

Training Manual and Script

Data Collection

Analysis

Piloting



Preliminary Finding #1: It is possible to apply a high-inference tool in LMICs

Score	1	2	3	4	5
Behavior Quality Range	LOW		MEDIUM		HIGH
	<i>In this classroom, the teacher does not check for any child's understanding.</i>		<i>In this classroom, the teacher is effective at checking only a few children's understanding.</i>		<i>In this classroom, the teacher is effective at checking for most children's understanding.</i>
4.1 ? The teacher uses questions, prompts, or other strategies to determine children's level of understanding ⁶	<p>The teacher either does not ask questions/prompt children at all OR only asks questions to the whole class and does not further clarify for individual understanding.</p> <p><i>For example: When demonstrating a new game, the teacher asks, "Does everyone know how to play?" The children in the class respond in unison, "Yes." Another example is, when taking attendance, the teacher asks the whole class "Do you know what your name starts with?" but does not further probe whether specific children know what their names start with.</i></p>		<p>The teacher uses questions, prompts or other strategies that are effective at determining only a few children's level of understanding.</p> <p><i>For example: The teacher asks, "What letter does your name start with?" and then calls upon 1 or 2 children to answer.</i></p>		<p>The teacher uses questions, prompts, or other strategies that are effective at determining most children's level of understanding.</p> <p><i>For example: The teacher says, "Please put your hand up and show me the number '3', '7', '10'." Another example is that the teacher asks the whole class "Stand up if your name begins with A/B/C," determining individual children's level of understanding. Alternatively, the teacher asks all children to participate in an art project or an action song, which provides the teacher with information about each children's mastery of the activity.</i></p>

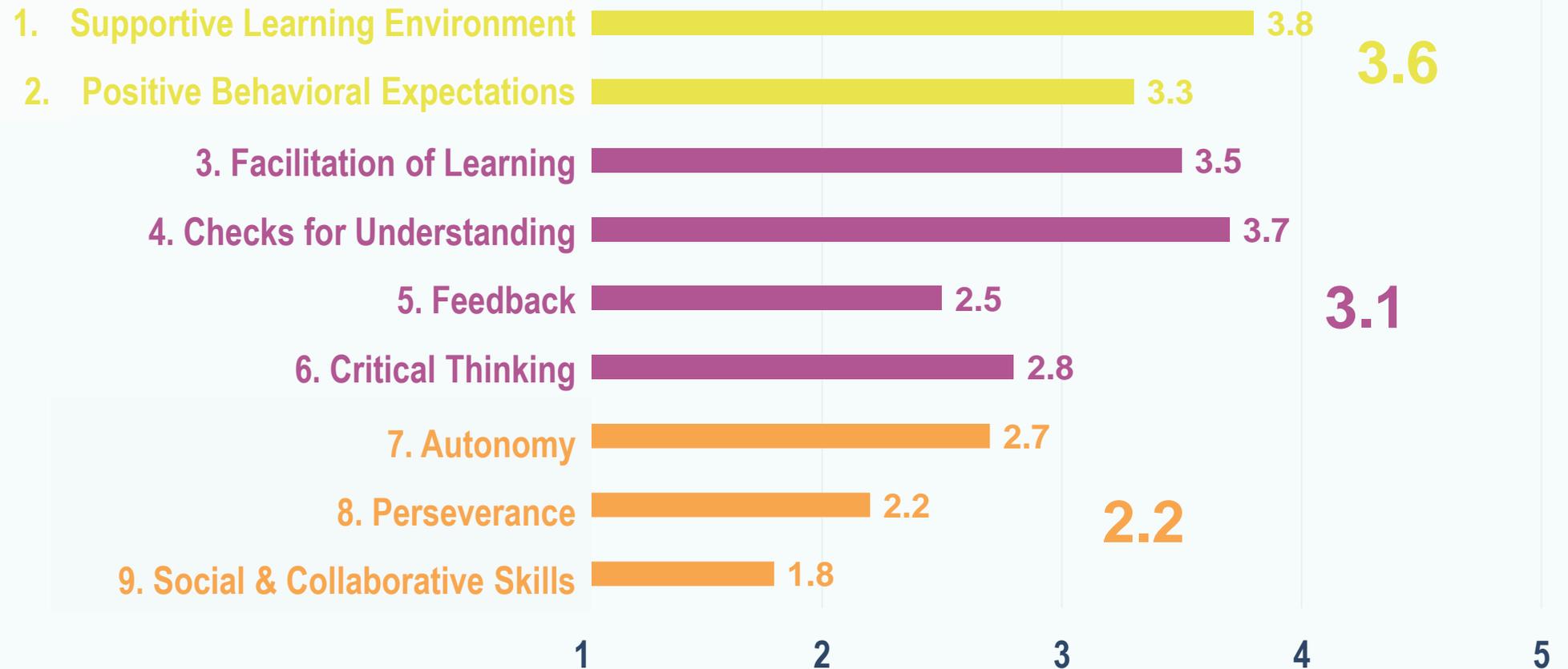
92%
pass rate in certification exam in training pilots to date

Preliminary Finding #2: Low scores in Guided Learning and Socio-Emotional Skills

CLASSROOM CULTURE

GUIDED LEARNING

SOCIO-EMOTIONAL SKILLS

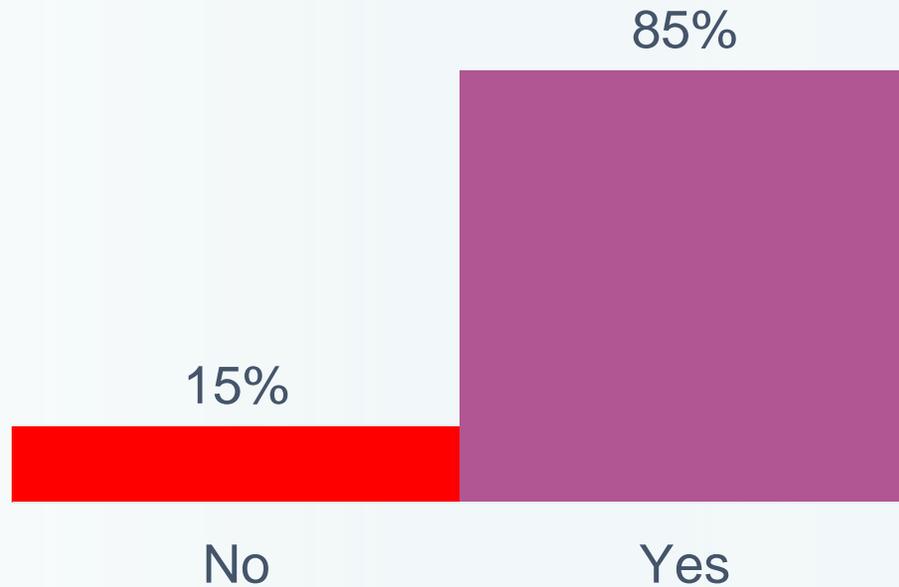


N=162 schools

Average Score

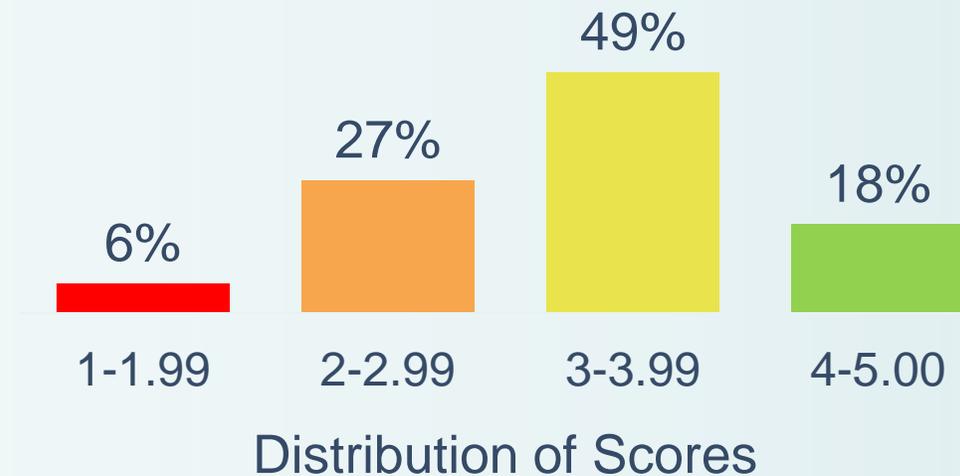
Preliminary Finding #3: Time Teaching \neq Quality Teaching

ECE teacher provides a learning activity



85% Time on Task

Guided Learning



18% Quality Teaching

From diagnosis to improvement

Teach Primary

In Pakistan

In Punjab, Pakistan, *Teach* is being used by mentors as a diagnostic to observe and provide feedback to 15,000 teachers per week.



In Mozambique

Teach is used to provide ongoing feedback to teachers to improve early grade reading.



Coach

Helping Countries Accelerate Learning

General Q&A