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EdData II Project

Snapshot of School Management Effectiveness (SSME):

Development Update and Pilot Results

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About the presentation

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Lima, Peru

for their implementation of the SSME pilot studies in Jamaica and Peru.

WHY another instrument?

Let's examine what's out there:

Type of instrument	Strengths	Weaknesses
Education sector assessment	• Combines multiple sources of information • Comprehensive	• Costly and time-consuming • Not suited to regular local use • Requires specialists to carry out
Checklist-style observation	• Objective, rapid • Systematic • Requires training but not great expertise to carry out data collection	• Can only collect directly observable data and information
Walkabout	• Involves little preparation; can be done whenever needed • Can engage decision-makers directly in witnessing problems	• Limited “sample” (a few schools) • Impressionistic, non-systematic • Risks unknown level of bias • Not necessarily inexpensive

WHY another instrument?

Among the approaches available and in use in developing country settings,

- only a few have focused specifically on school management dimensions, despite growing interest in management as a key component of Education For All.
- none represent a sustained effort to balance breadth, statistical rigor, cost-containment, and “flexible standardization”.

The SSME aims to combine many of the strengths while addressing the weaknesses of existing assessment instruments and practices.

What IS the SSME ?

- The Snapshot of School Management Effectiveness (SSME) is designed to offer a ***cost-effective, systematic***, and standard yet ***adaptable*** method to quickly ***assess the quality of school management functioning and performance*** in elementary schools and classrooms.
- The SSME can be applied locally, regionally, or nationally.
- It offers users a set of tools and capacity development:
  - **Database of core and optional SSME survey items**
  - **Instrumentation guidance**
  - **Methodological guide**
  - **Sampling frame guidelines**
  - **Standard reporting templates and guidance**
  - **Results interpretation and application guidance**

SSME development

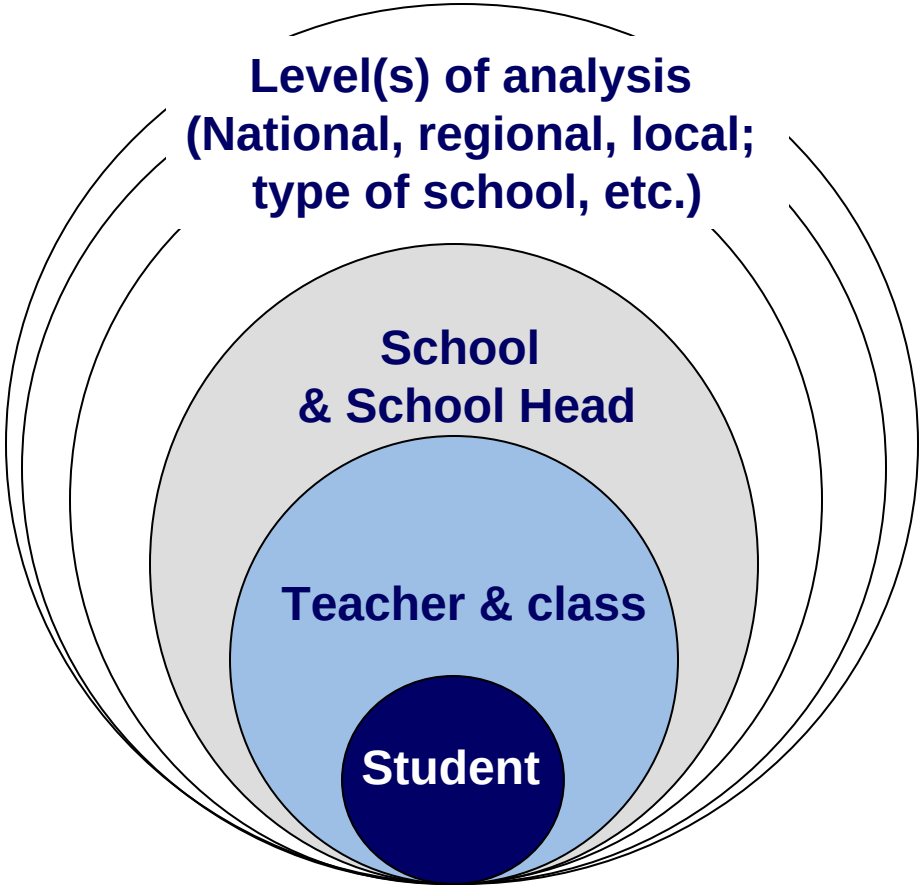
The SSME toolkit development process builds on:

- findings from the school effectiveness research
- review of school management monitoring tools developed by diverse actors in specific country contexts
- recommendations from a panel of international experts
- ongoing exchange with researchers, planners, practitioners
- pilot work in Jamaica and Peru (June – December 2007)

Photos courtesy of Fundación para el Desarrollo Agrario (FDA), Peru

Efficient, flexible sampling of cases

Nested random sampling of the population of interest
(20 – 40 schools required per level-unit)



SSME pilot study samples

JAMAICA PILOT SAMPLE:

- 6 parishes
- 8 schools and their principals per parish
- One Grade 2 and one Grade 3 classroom and teacher per school
- 4 students (2 boys and 2 girls) per classroom
- One parent per school

TOTAL: 48 schools, 96 teachers and classrooms, 384 students, 48 parents

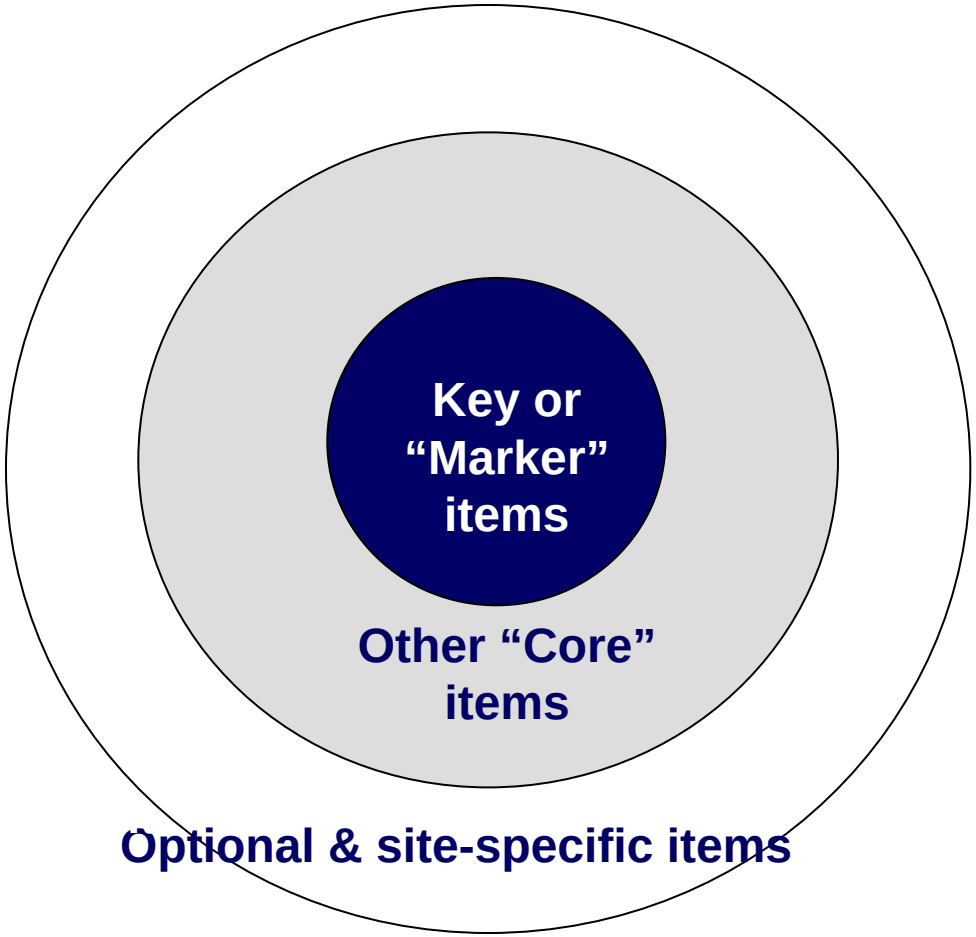
PERU PILOT SAMPLE:

- 4 departments, 2 UGEL per department
- 8 schools and their principals per UGEL
- One Grade 2 and one Grade 3 classroom and teacher per school
- 4 students (2 boys and 2 girls) per classroom
- One parent per school

TOTAL: 64 schools, 128 teachers and classrooms, 512 students, 64 parents

Efficient, flexible sampling of questions

“Levels” of items in the SSME item databank



Criteria for selection of key and core survey questions

Literature and instrument review and exchanges with experts and practitioners produced over 500 candidate “items”.

We used the following criteria to select SSME “core” items from this collection:

DURING INITIAL DRAFTING OF PILOT INSTRUMENT

- Utility for decision-making on school management policy and practice
- Convergence of findings across multiple countries
- Relative ease of data collection

DURING ANALYSIS OF PILOT RESULTS

- Quality and reliability of item performance (response rates; discrimination capacity; consistency across related items)
- Confirmation of relationship with performance outcome indicators (student reading scores and attendance rates)

Jamaica pilot :

Distribution of items by instrument and response rate

RESPONSE RATE CATEGORY	Student Interview	Teacher Interview	Sch. Head Interview	School Observ.	Classrm Observ.	Parent Interview	TOTAL
Under 80%	0	5	9	12	0	9	*35*
80% to 89%	1	6	18	1	0	13	*39*
90% to 94%	4	11	19	4	5	16	*59*
95% to 99%	34	32	39	5	76	8	*194*
100%	37	43	84	12	3	19	*198*
Items with no ceiling	11	15	10	0	9	31	*76*
TOTAL	87	112	179	34	93	96	*601*

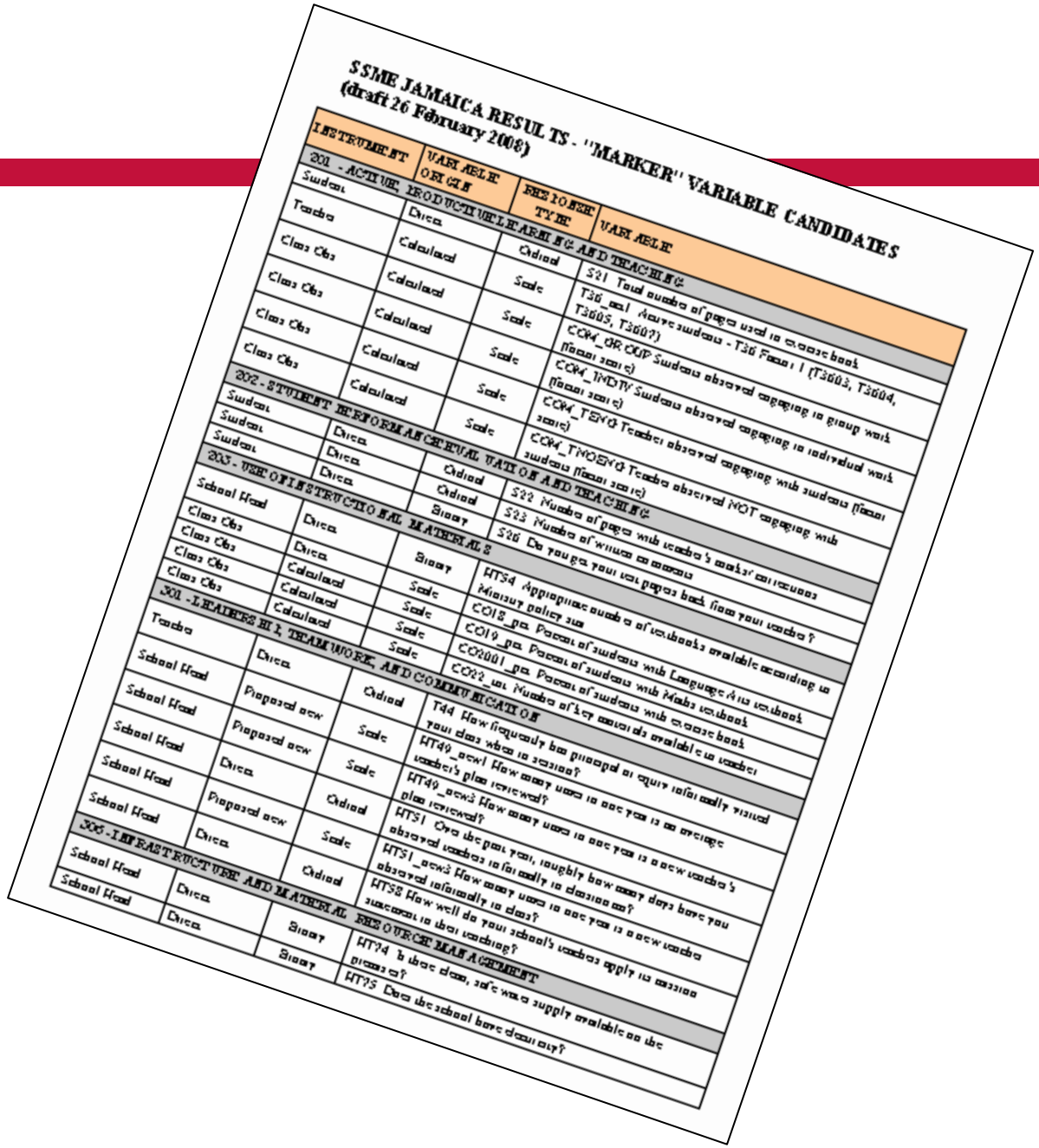
Jamaica pilot :

Distribution of items by instrument and response variability

VARIABILITY CATEGORY	Student Interview	Teacher Interview	Sch. Head Interview	School Observ.	Classrm Observ.	Parent Interview	TOTAL
No variability	2	3	5	2	0	14	*16*
Little variability (less than 10%)	23	16	12	2	13	21	*87*
Moderate to high variability	48	76	132	24	61	51	*392*
Not applicable (identification items)	14	17	30	6	19	20	*106*
TOTAL	87	112	179	34	93	96	*601*

SSME survey instruments overview

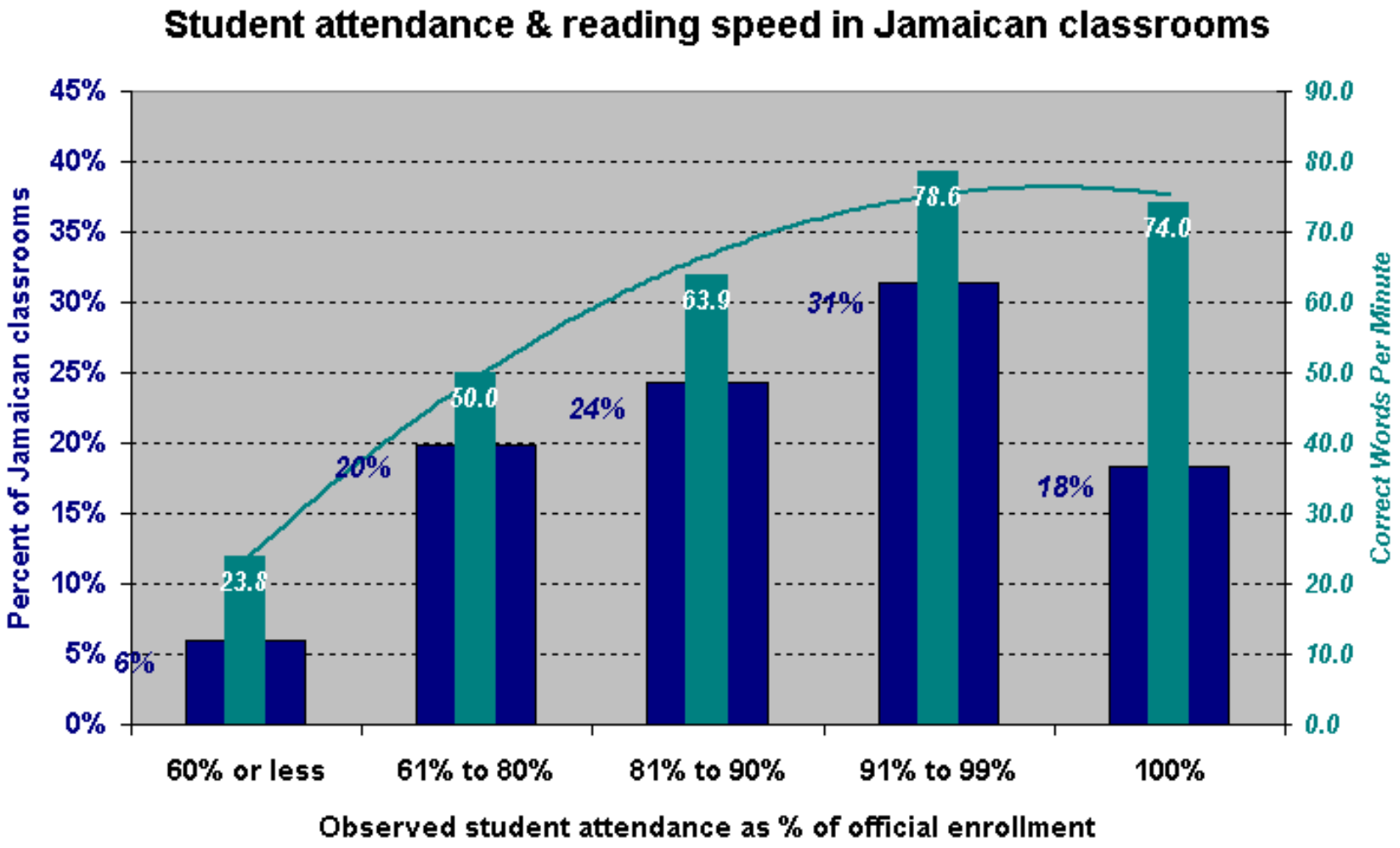
DIMENSIONS EXPLORED	INTERVIEWS				OBSERVATION	
	Student (+ EGRA)	Teacher	School head	Parent	School	Class-room
CLASS-LEVEL MANAGEMENT						
• Active, productive learning & teaching	✓	✓		✓		✓
• Use of instructional materials	✓	✓				✓
• Student performance evaluation & feedback		✓		✓		✓
SCHOOL-LEVEL MANAGEMENT						
• Leadership, teamwork & communication		✓	✓		✓	
• Infrastructure, material, financial mgmt		✓	✓	✓	✓	
• Teacher management	✓	✓	✓	✓		
• Student attendance and discipline	✓	✓	✓	✓		✓
• Time organization and use		✓	✓	✓	✓	
PARENT & COMMUNITY INVOLVEMENT	✓	✓	✓	✓		
EDUCATION SYSTEM SUPPORT		✓	✓			
BASIC CHARACTERISTICS	✓	✓	✓	✓	✓	✓



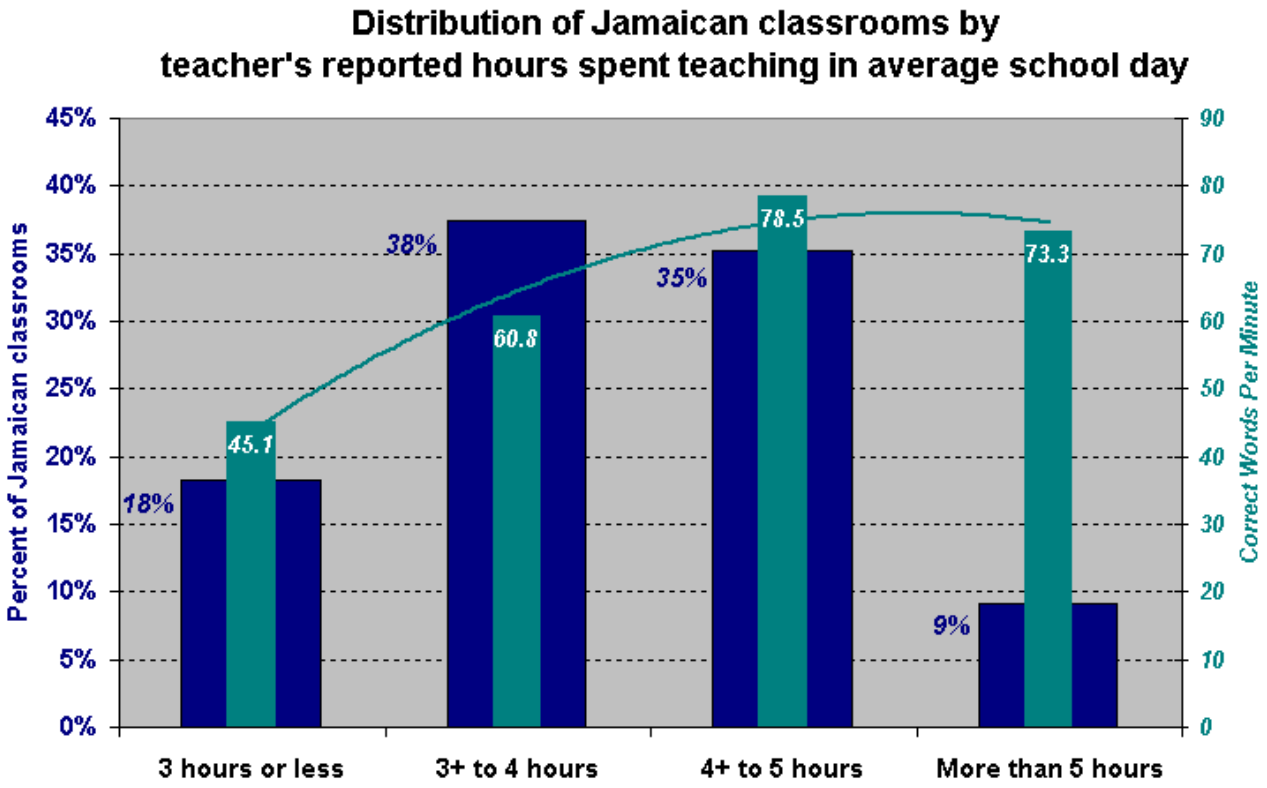
SSME JAMAICA RESULTS - "MARKER" VARIABLE CANDIDATES
(draft 26 February 2008)

INSTRUMENT	VARIABLE ORIGIN	RESPONSE TYPE	VARIABLE
201 - ACTIVE PRODUCTIVE LEARNING AND TEACHING			
Student	Direct		S21 Total number of pages used in exercise book
Teacher	Calculated	Ordinal	T36_acl Above/below - T36 Focus 1 (T3603, T3604, T3605, T3607)
Class Obs	Calculated	Scale	CO04_GROUP Student observed engaging in group work (mean score)
Class Obs	Calculated	Scale	CO04_INDIV Student observed engaging in individual work (mean score)
Class Obs	Calculated	Scale	CO04_TENO Teacher observed engaging with student (mean score)
Class Obs	Calculated	Scale	CO04_TNOENO Teacher observed NOT engaging with student (mean score)
202 - STUDENT PERFORMANCE EVALUATION AND TEACHING			
Student	Direct		S22 Number of pages with teacher's marks/ corrections
Student	Direct	Ordinal	S23 Number of pages with teacher's written comments
Student	Direct	Ordinal	S26 Do you get your exercises back from your teacher?
203 - INSTRUCTIONAL MATERIALS			
School Head	Direct	Binary	HT34 Appropriate number of textbooks available according to Ministry policy
Class Obs	Direct		CO18_pc Percent of students with Language Arts textbook
Class Obs	Calculated	Scale	CO19_pc Percent of students with Maths textbook
Class Obs	Calculated	Scale	CO20U1_pc Percent of students with exercise book
Class Obs	Calculated	Scale	CO22_tot Number of key resources available to teacher
301 - LEADERSHIP, TEAMWORK AND COMMUNICATION			
Teacher	Direct	Ordinal	T44 How frequently has principal or deputy informally visited your class when in session?
School Head	Proposed new	Scale	HT49_acw1 How many times in last week to teacher's planning review?
School Head	Proposed new	Scale	HT49_acw2 How many times in last week to planning review?
School Head	Direct	Ordinal	HT51 Over the past year, roughly how many days have you observed teachers informally in session?
School Head	Proposed new	Scale	HT51_acw2 How many times in last week to observed informally in class?
305 - INFRASTRUCTURE AND MATERIAL RESOURCE MANAGEMENT			
School Head	Direct	Scale	HT58 How well do your school's teachers apply in session successful in their teaching?
School Head	Direct	Binary	HT74 Is there clean, safe water supply available on the premises?
		Binary	HT75 Does the school have electricity?

ILLUSTRATIVE RESULTS:
Where student attendance is strong, students' reading speed is higher



ILLUSTRATIVE RESULTS:
Time for learning in Jamaican schools



What the picture shows:

Students whose teachers spend over 4 hours teaching on an average school day have higher fluency in reading connected text (green).

BUT: Fewer than half (44%) of sampled Jamaican teachers report spending this amount of time teaching (blue).

Implications for policy and practice:

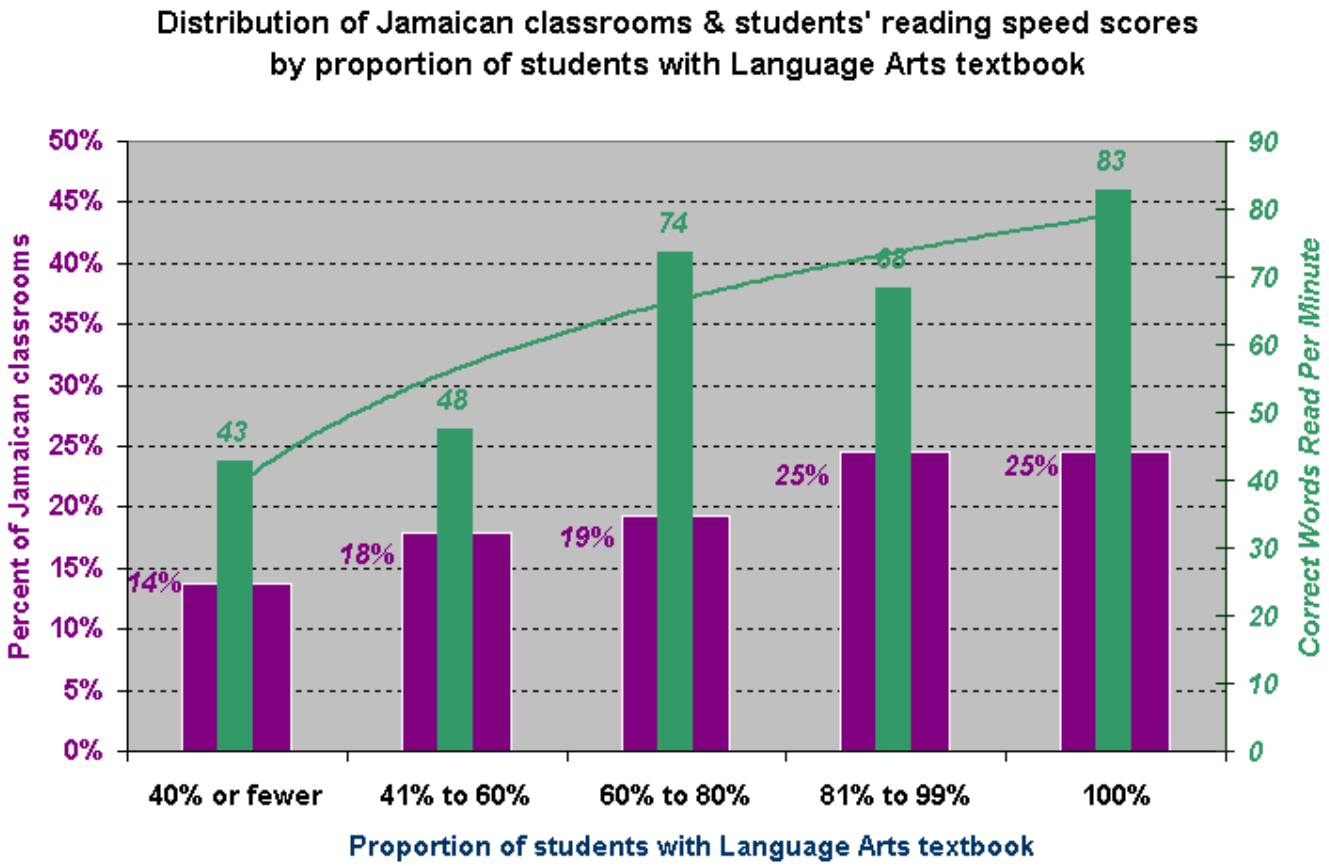
School leadership and teaching staff need to ensure that teaching-learning time is maximized during the school day.

Next steps for research and action:

Identify what "distracts" teachers from teaching.

Study and communicate how some schools have surmounted these distractions.

ILLUSTRATIVE RESULTS:
Educational materials are available and in use



What the picture shows:

Children's reading speed scores (green) are higher in classrooms where at least 60% of children have a Language Arts textbook in hand (violet).

Yet in nearly a third (32%) of Jamaican classrooms, fewer than 60% have a textbook.

Implications for policy and practice:

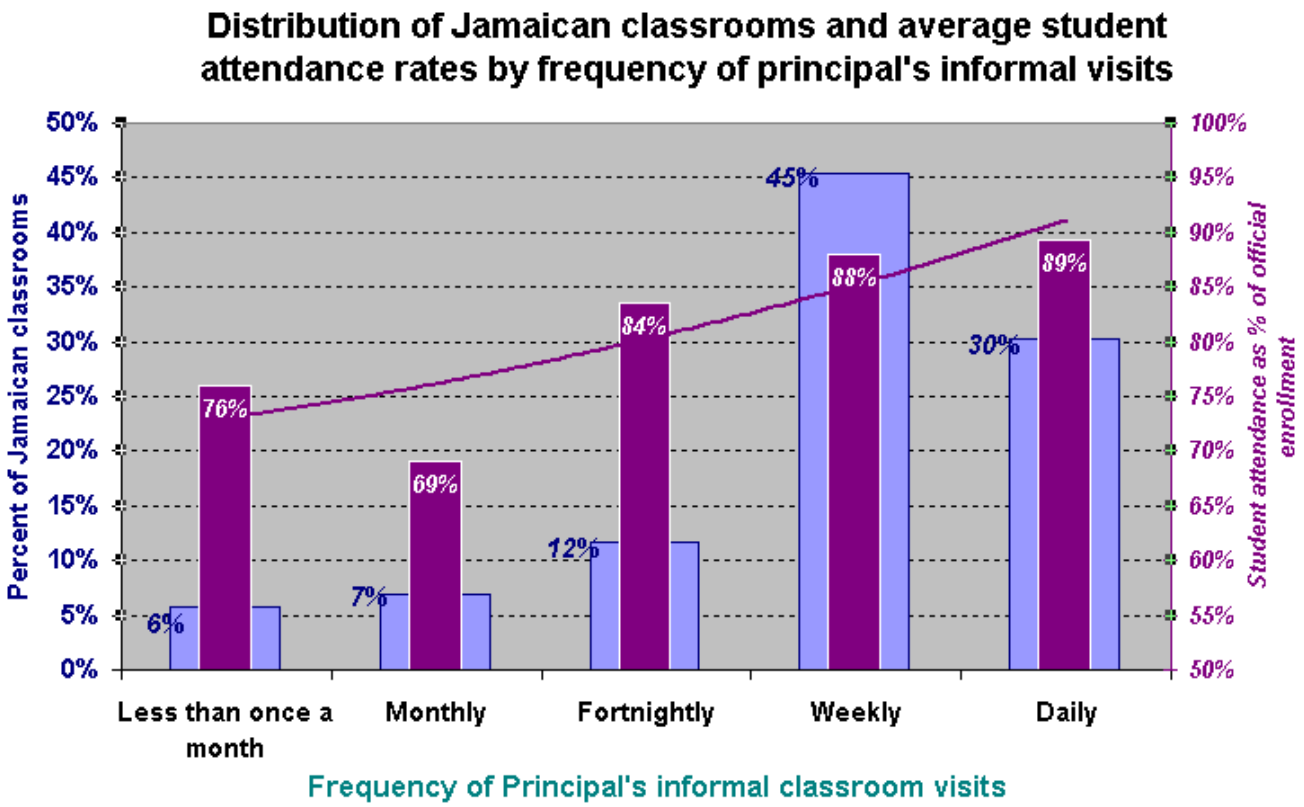
Textbooks are important, so stated textbook policy is appropriate.

But distribution practices must be strengthened to ensure that all children benefit.

Next steps for research and action:

Audit textbook distribution chain to identify where and how inequities occur, and redress.

ILLUSTRATIVE RESULTS:
Engagement of school leadership



What the picture shows:

Student attendance rates (violet) tend to be higher in schools where principals visit classrooms more frequently. In Jamaican classrooms sampled, 75% of teachers reported weekly or daily visits by the principal (light blue).

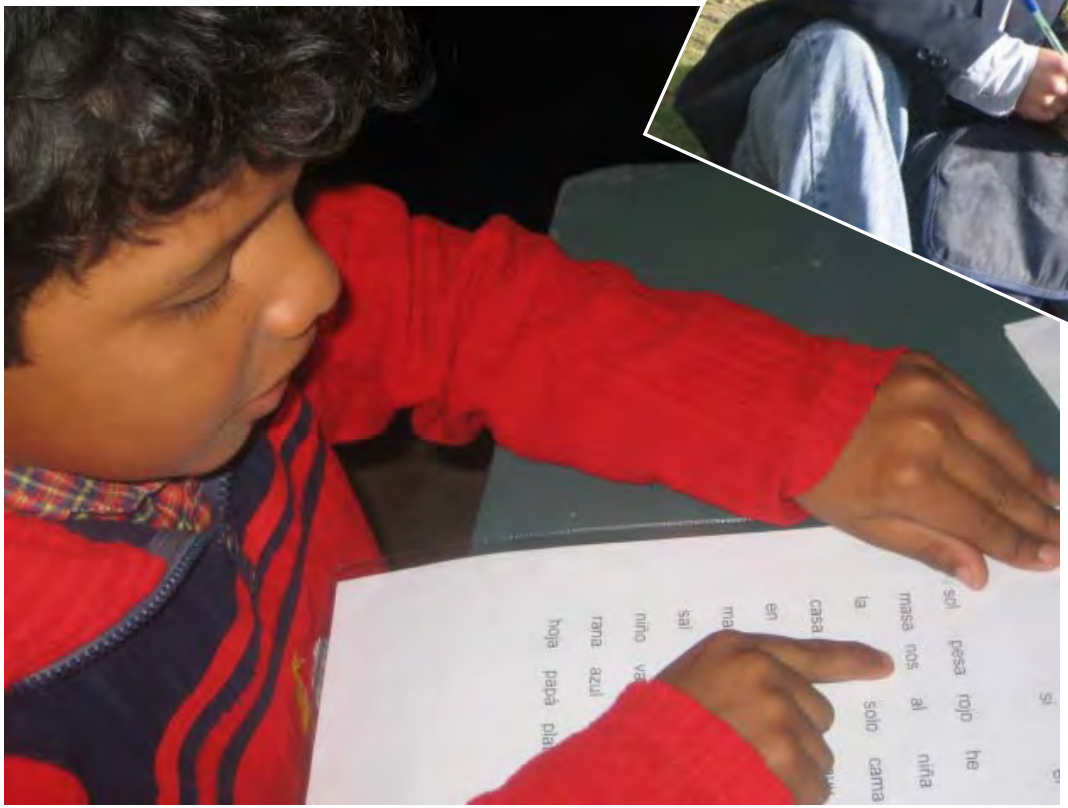
Yet 13% report monthly or less frequent visits, & have lower attendance as well.

Implications for policy and practice:

Jamaican schools for the most part appear to have acceptable levels of principal engagement.
Low engagement does exist in some schools, calling for targeted attention.

Next steps for research and action:

Carry out targeted Principal awareness-raising to improve low engagement levels where needed.



Photos courtesy of Fundación para el Desarrollo Agrario (FDA), Peru

SSME sample size considerations

- Sample size: critical
- Too big: very costly
- Too small: very imprecise results
- What have we learned from SSME thus far?
- In general, recall that: sample size is determined by a number of factors
  - Level of confidence: how sure are we that we have captured the real value: 90%, 95%, 99%?
  - The margin of error: plus or minus X?
  - How variable the thing we are measuring is
- Results: for key classroom-level issues, as few as 30-50 schools may be needed, for any group (public-private, etc.)

SSME sample size considerations

Results from Jamaica[1]

Calculation of SSME School Sample Size for 95% confidence				
Variable	**Schools**	**Mean**	**CI Lower Bound**	**CI Upper Bound**
Attendance Rate	35	87%	83%	91%
Frequency of Informal Principal Visits	29	4.85 Visits	4.49 Visits	5.28 Visits
%of children w/ Language Arts Books	49	71%	64%	78%
Time on Task	27	3.9 Hrs	3.51 Hrs	4.29 Hrs

[1](Peru not too different, but analysis is prelim)

SSME sample size considerations: Small Sample Options

- How small can you get?
- “Walkabout” dangerous: w 3 schools, CI for books is 39% to 103%.
- All the above applies if we are trying to get baseline and estimate something (average minutes of class time, % kids w books)
- If all we want is to monitor whether something happens, not how much it happens, then we can use **Lot Quality Assurance Sampling**: **LQAS**
- Example: to monitor whether all children are reading aloud at least X minutes per week, to monitor whether principals visit all classrooms at least once per week
- Then samples of only some 20 schools will do
- This is usually done after a baseline has been drawn, as a way to monitor
- Started in business and defense, used in health, time to use in education!?
- UPHOLD project in Uganda has experimented. Time to consider its broader use in USAID projects, and teach others?

SSME field cost considerations: Jamaica budget example

COST CATEGORY	Number	Days per person	USD
LABOR			
Project coordinator	1	29	
Parish coordinators / Fieldwork supervisors	2	38	
Interviewers	12	8	
Data management supervisor	1	36	
Data coding and data entry	4	18	
Statistician	1	10	
SUBTOTAL LABOR COST			$57,606
FIELD TRAVEL AND TRANSPORTATION			$2,210
TRAINING, MATERIALS, COMMUNICATIONS			$2,516
TOTAL COST OF FIELD OPERATIONS			**$62,332**

(Costs vary!: Peru: $39,006 for 50% more schools!)

4. Conclusions & Recommendations

Strengthening the SSME instrument

CONCLUSIONS:

- Pilot results are consistent with the literature
- Items distinguish between high-performing & low-performing schools
- Adequate response rates and internal consistency.
- Some instrument layout errors to correct.

RECOMMENDATIONS:

- Reduce length of instruments by 20% - 25%
- Remove items lacking substantive “value added”
- Revise or remove items with weak response rates or consistency
- Simplify instrument layout presentation and scoring, particularly in differentiation of “checklist” items & pre-coded single-response items.
- Favor yes-no, LQAS-style items
- Update item database with categorization of items as key, core, and optional or site-specific; and inclusion of both direct survey items and post-hoc calculated variables.

4. Conclusions & Recommendations

Improving SSME fieldwork training & implementation

CONCLUSIONS:

- Experienced local fieldwork teams able to carry out survey testing and adjustment, staff training, fieldwork and data management as scheduled, with only small amount of international TA (1-2 weeks).
- Logistical, technical challenges addressed with ingenuity.
- Some outstanding challenges with sampling “interference”; missing data.

RECOMMENDATIONS:

- “Capture” and re-invest lessons learned and solutions found to address fieldwork challenges, in revised toolbox.
- Emphasize attention to logistical details
- Strengthen capacity of field supervisors to follow and defend sampling requirements
- Strengthen data collection training in area of missing data

4. Conclusions & Recommendations

Interpreting and using SSME results

CONCLUSIONS:

- The SSME produces data that can be readily transformed into compelling information for analysts and decision-makers.

RECOMMENDATIONS:

- Careful selection of “marker” indicators that reliably reflect a larger pattern of behavior is useful and possible
- Caution against “over-interpretation” on the basis of a single indicator
- Build participatory dialogue around analysis and interpretation of SSME results, into the SSME practice and toolkit.

5. Next steps for SSME development and application

- Continue dialogue and exchange with colleagues through workshops and presentations (such as CIES 2008)
- Complete revisions and assembly of basic toolkit using results and lessons from Jamaica and Peru pilots
- Pursue additional applications, improving toolkit with each application
- Explore “extended use” applications such as:
  - SSME as a school-based self-monitoring and assessment tool
  - Pairing SSME with EGRA and other student learning assessments
  - Pairing SSME with system-level management assessment

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