Rosetta Stone: Linking assessment programmes for reporting of SDG 4.1.1

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Target 4.1 aims to “ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes” by 2030.

Global indicator 4.1.1 refers to the “proportion of children and young people (a) in Grade 2 or 3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.”

Global indicator 4.1.2, “completion rate (primary, lower secondary, upper secondary education),” was added as global indicator in March 2020.
Reporting on SDG 4.1.1 requires agreeing global common definitions on national and cross-national assessments to allow countries:

- report on proportion of learners meeting a minimum level;
- identify the best way to support students to achieve “relevant and effective learning outcomes”;
- track outcomes over time to identify progress and the lack of it;
- share and learn from each other in terms of education and social policies and teaching and learning strategies.
The challenges of comparison in the presence of a family of learning assessments

Proficiency in reading

- **Country A**: child scores 40 out of 80 in regional test X
- **Country B**: child scores 40 out of 50 in regional test Y
- **Country C**: child scores 40 out of 65 in global test Z
- **Country D**: child scores 40 out of 70 in national test W

- Are all children **equally proficient** in reading?
- Does **any/all** children meet the MPL in terms of the reading skills they should have acquired for their schooling level?
Methodological challenges: Building the foundational blocks 2016-2019

- Solving definitional issues
  - What contents?
  - What proficiency levels?
  - What is the minimum proficiency level (MPL)

- Harmonizing data sources
  - different frameworks
  - different tools (items/ scales for reporting)
  - different proficiency levels descriptors
  - different student population, different languages
Challenge 1

The Global Proficiency Framework (GPF): what contents and what proficiency

• proposes performance standards in reading and mathematics for grades 1-9
  o What children should be able to do for each domain in each grade
  o contains proficiency levels and their descriptors

• based on developmental progressions and national assessment frameworks:
  o translated to Spanish; specific parts in Khmer and Nepali, and Hindi and other 20 regional languages of India.
  o upcoming French, Arabic

ACER and UIS, “Learning Progression Explorer”
https://www.acer.org/gb/gem/learning-progression-explorer
MPL = **benchmark of basic knowledge in a domain** (mathematics, reading)

### Reading

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Descriptor</th>
<th>Assessment level aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of primary</td>
<td>• Read and understand a text</td>
<td>• PASEC 2014 – Level 4</td>
</tr>
<tr>
<td>(Grades 4 &amp; 6)</td>
<td>• Interpret &amp; explain ideas in text</td>
<td>• TERCE 2014 – Level 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PIRLS 2011 &amp; 2016 - Low</td>
</tr>
</tbody>
</table>

### Mathematics

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Descriptor</th>
<th>Assessment level aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of primary</td>
<td>• Number sense and computation</td>
<td>• PASEC 2014/19 – Level 3</td>
</tr>
<tr>
<td>(Grades 4 - 6)</td>
<td>• Basic measurement</td>
<td>• ERCE 2014/19 – Level 3</td>
</tr>
<tr>
<td></td>
<td>• Number patterns</td>
<td>• TIMSS 2015/ 2019 – Intermediate</td>
</tr>
</tbody>
</table>

Reporting at the End of Primary (4.1.1.b)

Global Assessment IEA (TIMSS 4\textsuperscript{th} and PIRLS)

Regional Assessments ERCE, PASEC, SACMEQ, PILNA and SEA-PLM
Challenge 2
Harmonization (I):

Common Student Linking

Students-in-country sit for two assessments programs and serve as the “link” which allows the correspondence of results from between the two assessments

IEA/UIS Rosetta Stone Concordance Table (End of Primary - 4.1.1 b)

IEA’s PIRLS and TIMSS is linked to PASEC (Burundi, Senegal and Guinea) and ERCE (Chile, Guatemala, Colombia)

Monitoring the impact on Learning Outcomes (MILO) Module aligned to MPL (end of Primary -4.1.1 b)

A testlet (AMPL-B) aligned to the Global MPL administered in 6 countries reporting for PASEC (Burkina Faso, Senegal, Burundi, Ivory Coast) and NASMLA (Kenya) and NPA (Zambia)
Harmonization (II):

Policy linking has been piloted for allowing linking of national assessments.

Teachers-in-country give pedagogical interpretation to learning assessment results, by linking proficiency levels to the MPL.

Implemented to align National Assessments (4.1.1 all levels)

UIS:
- **India**, grades 3 and 5 (2019); grade 8 (2021)
- **Bangladesh** grades 3 and 5 (2019)); Cambodia (grade 6);
- **Lesotho** (grade 6), **Zambia** (grade 6) and **Nepal** (grade 5)

USAID:
- **Nigeria** (2020), **Morocco**, **Kenya** and **Djibouti**;
  forthcoming **Senegal**.

WBG:
- Ghana, Gambia

USAID/FCDO/UIS:
- **ICAN/PAL Network**
Thank you

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Implications for reporting Rosetta Stone in PASEC and ERCE countries

- PIRLS 2016/TIMSS 2019
- ERCE
- PASEC
What is the impact of using the threshold of IEA's scales on the percentage of students above the minimum level in ERCE and PASEC for both domains?

a. Does each assessment consider the same threshold or, in other words, is the MPL happening at the same score?

b. How are the students scores distributed around the different thresholds?
Impact of a change in the cutpoint depends on the distribution of students along the proficiency scale.

At the original cutpoint:
- % of students proficient is represented by

For the new (higher) cutpoint:
- Would decrease in a % below
- The percentage of students “proficient” for this cutpoint is
Starting point: own thresholds

- % of students above MPL in assessment 1
- % of students above MPL in assessment 2

New threshold

Changes with the new threshold

- Assessment 1 – % of Students who fall below for the new cutpoint
- Assessment 2 – % of Students who are also above the new cutpoint

Accumulated students in a given grade

Assessment 1

MPL Assessment 1

Assessment 2

MPL Assessment 2

Proficiency Level
ERCE and PASEC in Rosetta Stone

Reading

Proportion of students in ERCE countries achieving MPL for reading

Proportion of students in PASEC countries achieving MPL for Reading
ERCE and PASEC in Rosetta Stone

Mathematics

Proportion of students in ERCE countries achieving MPL for Mathematics

Proportion of students in PASEC countries achieving MPL for Mathematics
Measuring is important to define actions to support improvement.

• Place someone reliably on a scale that supports comparison.
• Identify key drivers to facilitate accompanying policies (the reason why the context questionnaires).
• Identify appropriate **instructional responses** that would help students improve their proficiency in the subject matter.
Thank you

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