Fifth Technical Cooperation Group Meeting

GAML 5 Highlights

Silvia Montoya,
Director, UNESCO Institute for Statistics

November 2018
Fifth Meeting

- Hamburg October 2018
- More than 80 attendants

Countries at GAML 5

- Afghanistan
- Bangladesh
- Belgium
- Brazil
- Burundi
- Cambodia
- Canada
- Chile
- Dominican Republic
- Estonia
- France
- Gambia, the
- Grenada
- India
- Kenya
- Maldives
- Mali
- Nepal
- Russia
- Slovakia
- Sweden
- Tunisia
- Turkey
- Uruguay

St. Vincent
The 2030 Agenda and Reporting

- Regardless of the methodology, some assumptions need to be met...
  - Learning domains and target population need similarities to have valid outcomes
  - Procedural consistency needs to be ensured

National ownership, cultural values national needs, and sensitivity to cultural values all have to be respected
### How do we organize our work?

#### Key phases in an assessment programme

<table>
<thead>
<tr>
<th>Phase</th>
<th>What it addresses</th>
<th>Main components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conceptual framework</strong></td>
<td>What and who to assess</td>
<td>• Assessment/survey framework (cognitive, non-cognitive, and contextual)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Target population</td>
</tr>
<tr>
<td><strong>Methodological framework</strong></td>
<td>How to assess</td>
<td>• Test design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sampling frame</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Operational design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Data analysis</td>
</tr>
<tr>
<td><strong>Reporting framework</strong></td>
<td>How to report</td>
<td>• Defining scales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Benchmarking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Defining progress</td>
</tr>
</tbody>
</table>
Progress in indicator 4.1.1:

Consensus on minimum proficiency levels

Representatives from regional and international learning assessments met to agree on minimum proficiency levels (MPLs) in Paris, France.

SDG Indicator 4.1.1: Proportion of children and young people in (a) 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
Figure 2.7 Proficiency scales in mathematics according to current PLDs

Mathematics proficiency scale and minimum proficiency levels

- Adjusted ordinal scale
- Minimum proficiency level for Grade 2 or 3
- Minimum proficiency level for the end of primary education
- Minimum proficiency level for the end of lower secondary education

Notes: Proficiency levels below the scale: All proficiency levels from ASER 2017, EGMA, Uwazo and UNICEF MICS8; PASEC 2014 Grade 2 (below level 1); SERCE 2006 Grade 3 (Level 1 and below Level 1). MPL: Minimum proficiency level as defined by each assessment.

Progress in indicator 4.1.1:
Progress in indicator 4.1.1:
Comparability in reporting indicator 4.1.1
• General policy level descriptors
• Multi-fold reporting

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Descriptor</th>
<th>Assessment PLDs that align with the descriptor</th>
<th>Minimum proficiency level in the assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 8 and 9</td>
<td>Students demonstrate skills in computation, application problems, matching tables and graphs, and making use of algebraic representations.</td>
<td>PISA 2015, Level 2</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TIMSS 2015, Low International</td>
<td>Intermediate international</td>
</tr>
<tr>
<td>Grades 4 and 6</td>
<td>Students demonstrate skills in number sense and computation, basic measurement, reading, interpreting, and constructing graphs, spatial orientation, and number patterns.</td>
<td>SACMEQ 2007, Level 3</td>
<td>Level 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SACMEQ 2007, Level 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PASEC 2014, Level 1</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PILNA 2015, Level 6</td>
<td>Level 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TERCE 2014, Level 1</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TIMSS 2015 Intermediate international benchmark</td>
<td>Intermediate international</td>
</tr>
<tr>
<td>Grade 2 or 3</td>
<td>Students demonstrate skills in number sense and computation, shape recognition and spatial orientation.</td>
<td>TERCE 2014, Level 2</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PASEC 2014, Level 1</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PASEC 2014, Level 2</td>
<td></td>
</tr>
</tbody>
</table>
Indicator 4.1.1

Conceptual framework:
- Global Content Framework of Reference for Mathematics
- Global Content Framework of Reference for Reading
- Content Alignment Tool

Methodological framework:
- Manual of Good Practices in Learning Assessment
- Quick Guide: Making the Case for a Learning Assessment
- Quick Guide: Implementing a National Learning Assessment
- Procedural Alignment Tool
- Online Dashboard on Using LA 4 SDG4

Reporting framework:
- Minimum proficiency levels
- Interim reporting strategy
- Reporting Protocol

Linking methodologies:
- Pedagogical linking
- Non-pedagogical linking

Portfolio approach
# Learning Assessment Dashboard

http://gaml.uis.unesco.org/dashboard/

## Mapping existing learning assessments to SDG 4 indicators

<table>
<thead>
<tr>
<th>SDG 4</th>
<th>Indicator concept</th>
<th>Indicator name</th>
<th>Type of assessment</th>
<th>Assessment</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>4.1.1 Learning</td>
<td>Proportion of children and young people (a) in Grade 2 or (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least.</td>
<td>School-based</td>
<td>EGMA/GERA</td>
<td>Cognitive test</td>
</tr>
</tbody>
</table>

### Type of assessment: School-based
- TIMSS
- PASEC
- PIRLS
- SACMEQ
- PISA
- TERC
- ICES
- ERMAS/ERA
- ICLS
- EDI

### Type of assessment: Household-based
- Young lives
- MICS
- PALS Network
- STEP
- PIACC
- EAP ECD
- EMCI
- MELOQ
- ITU

### Type of questionnaire: Global

In the last 3 days, did you or any household member age 15 or over engage in any of the following activities with <<insert child's name>>? (e.g., read books, told stories, sang songs, played outside, played, named, taught, drew things)

1. If there are children's books in the home... In the last 7 days, how many days has someone in the home read to (name)?
2. I am interested in learning about the things that (name) plays when he/she is at home. Does he/she play with homemade toys (such as dolls, cars, or other toys made at home)?

### Type of questionnaire: Thematic

Typically how many hours did each child in the household (aged between 5 and 11 yrs) spend on the following activities during a typical day (from Monday to Friday) in the last week? (e.g., sleeping, caring for others, domestic tasks, at school, studying, play, etc.)
**SDG4.1.1 - 3 Innovative Solutions to generate comparable data**

The UIS PS is the reference scale for reporting indicator 4.1.1, after all assessments are put on a common scale.

<table>
<thead>
<tr>
<th><strong>Statistical methods</strong></th>
<th><strong>Non - Statistical methods</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test-based approach</strong>*</td>
<td><strong>Pedagogical calibration</strong>*</td>
</tr>
<tr>
<td>Anchoring: calibrated ability two test</td>
<td>Anchoring: expert opinion</td>
</tr>
<tr>
<td>Tool: two different tests</td>
<td>Tool: policy descriptors and difficulty linking</td>
</tr>
<tr>
<td>Common individuals</td>
<td></td>
</tr>
<tr>
<td>Output: concordance table</td>
<td>Output: assessments are on common scale</td>
</tr>
<tr>
<td>on common scale</td>
<td></td>
</tr>
</tbody>
</table>

Universe
- International and regional assessment
- Big Countries

Caveats to Note
- SE not yet defined
- Will start by two regions

Universe
- All assessments
- Needs pilot

Caveats to Note
- SE not yet defined
- Relatively costly
- Needs more political

Universe
- All assessments especially national
- Only linking road for 4.1.1a

Caveats to Note
- SE not yet defined
- Relatively less costly
- More intuitive

---

* Test-based approach: Common individuals meaning representative individuals of similar characteristics are presented with two different tests.

** Item-based approach: Common items different tests taken by different individuals. Tests will be put on common scale once embed the calibrated items from the item pool.

*** Pedagogical calibration approach: Use content/context experts with relevant experience in country to generate consensus on the alignment of national assessment to a Proficient Scale taking into account constructs and difficulties of the items. No extra field work required.
Progress in indicator 4.4.2

What is a globally agreed definition of ICT and digital literacy skills?

- **Global Competency Framework of Reference on digital literacy skills**
- Measurement strategy by Task Force chair
- Mapping of existing assessments on the Global Framework for Digital Literacy Skills
### Cross-national examples

#### Relevance

| Assessment and competence frameworks | IEA International Computer and Information Literacy Study (ICILS) | OECD Programme for the International Assessment of Adult Competencies (PIAAC) | ECDL Foundation International Computer Driving License (ICDL) | European Commission Digital Competence Framework for Citizens (DigComp 2.1) | LSE/Twente/Oii Measuring digital skills |

#### Implementation

<table>
<thead>
<tr>
<th>Technical standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample, coverage etc.</td>
</tr>
<tr>
<td>Modality, security etc.</td>
</tr>
</tbody>
</table>

#### Interpretation

<table>
<thead>
<tr>
<th>Reporting scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance levels</td>
</tr>
<tr>
<td>Benchmarks</td>
</tr>
</tbody>
</table>

### Global reporting

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a learning assessment taken place?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalogue of learning assessments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the least common denominator?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global content framework</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do different assessment frameworks map against the global content framework?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content coding scheme</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of content alignment</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the assessments technically robust?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of data quality</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How does learning improve?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning progression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A score that is attached to each learning level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What level should learners achieve on that scale?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum proficiency level</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Progress in indicator 4.7.5

- Proposal for refining indicator to include secondary education instead of 15 years old
- This would allow reporting

**What is “adequate understanding”?**

**What is “proficiency”?**

**What are “issues related to sustainable development”?**

**TIMSS data to measure indicator 4.7.5**

- TIMSS grade 8 science framework

**Conceptual issues**

**Reporting thresholds**

**Operational Framework**

**Work Programme**
What do countries need?

- Sustainable funding
- Technical assistance
- Alignment tools
- Gaps in data collection addressed
- Consolidation of data sets across agencies
- Coordination between partners
- Networking arrangements
- Sharing of good practices
- Alignment of national policies with global requirements
- Capacity development workshops; training material
Understanding the Funding of Learning Assessments

Participation in Cross-national assessments

What is the cost of participating in an assessment?

Is financing secured?

Are you considering non-governmental financial assistance?

Supporting institutions

Have you approached non-governmental institutions?

What are the aspects that need to be funded?

Do you need technical assistance?

Countries

Assessment agencies

Creating dialogue
How much does it cost to participate in a cross-national assessment?

- **Average**: Thousands of USD
- **PISA 2018**: 1200
- **PISA-D**: 1200
- **TIMSS 2019**: 1300
- **PIRLS 2021**: 1100
- **PASEC 2019**: 1000
- **SACMEQ V**: 900
- **SEAPLM 2018/19**: 800
- **ERCE 2019**: 700

**Legend**:
- Participation fees
- Implementation
Tools need to address...

- **Data coverage** – not every country has data for every measurement point that is requested.

- **Data quality** – content and procedural alignment tool go some way to help countries reflect on the quality of assessments they are using to collect data points.

- **Data coherence** – if pulling different assessments for different points, to what extent can you use the alignment or linking strategies that have been proposed, statistical or not, pedagogical or not, to improve coherence.
Proposal for a new indicator on **Creativity**

- **Rationale**
  - From MDG to SDG; responding to a changing environment
  - No mechanism to promote the development of a breadth of skills for all learners
  - Moving beyond basic functional and vocational skills
  - Some countries have already embedded those skills in their national curricula

**New Indicator**

*Extent to which national education policies and education sector plans recognize creativity as a key skill that needs to be enhanced in national education systems*
Proposal for a new indicator on **CREATIVITY**

**Why do we need to enhance creativity?**

**Attention on assessing learners’ creative thinking**

**Complex problem solving; critical thinking**

Measure the level of national commitment towards the attainment of Target 4.7:

- Educational policies
- Educational sector planning
- Complement other thematic indicators

**Strengthening national education systems with increased focus on creativity**
Highlights from GAML 5

- Need to build **capacities, funding, technical expertise**, etc...
- Paradox: too much data, but not enough of the **right** kind
- **National examination** as a source of data for 4.1.1
- **Sustainability** of grant funded assessments
- Motivation for **assessment and validation**
- **Minimum proficiency levels** are lower at country level
- **Timely dissemination** of data
- Better **coordination** at country-level is needed
- **Mother tongue of instruction** in the first year of schooling
Adoption and Next Steps

4.1.1
- Definition of MPL
- Alignment methodology for indicator 4.1.1
- Content Framework and mapping tools
- Procedural guidelines and alignment tools
- All three points are now in Tier II.

4.4.2.
- Agreement on the content framework and next steps

4.6.1.
- Agreement on the need to generate
- Disagreement on proceed with self-reporting to report for indicator 4.6.1
- Proposal on improving literacy measure on HHS

4.7.5.
- Proposal on refining the indicator to open the door
Thank you!

Silvia Montoya
Director, UNESCO Institute for Statistics