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LEARNING

# Global Alliance to Monitor Learning (GAML): 2018 Progress report

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**GAML5/Report**



The Global Alliance to Monitor Learning (GAML) is an initiative to support national strategies for measuring learning and enable international reporting. Led by the UNESCO Institute for Statistics (UIS), GAML brings together UN member states, international technical expertise, and a full range of implementation partners — donors, civil society, UN agencies, and the private sector — to improve learning assessments globally. Through participation in GAML, all interested stakeholders are invited to help influence the monitoring of learning outcomes for Sustainable Development Goal (SDG) 4 and the Education 2030 goals.

GAML Task Forces have been established to address technical issues and provide practical guidance for countries on how to monitor progress towards SDG 4. The Task Forces make recommendations to the Alliance and are specifically responsible for:

- The framework for all global and thematic indicators related to learning and skills acquisition for Targets 4.1.1, 4.2.1, 4.4.2, 4.6.1, 4.7.4 and 4.7.5;
- Tools to align national and cross-national assessments into a universal reporting scale for comparability;
- Mechanisms to validate assessment data to ensure quality and comparability;
- Standards, guidelines and tools to guide countries in implementing and evaluating the quality of their learning assessments;
- Capacity-development tools and resources to complement existing ones and support countries in collecting, analyzing and using learning assessment data; and
- Guidelines and templates to help countries develop their own strategies to monitor learning.

As a forward-looking vision, GAML seeks to extend partnerships to regional organizations and countries. Regional partnerships will strengthen the relationship between GAML and national statistical systems, hence allowing the UIS to provide targeted guidance and assistance that would allow for monitoring of the SDG 4 agenda.

This report presents the UIS work in GAML throughout the year 2018, in terms of knowledge production, communication and outreach, and finally, its role as a coordinator of GAML.

## Communication and Outreach

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The communication of GAML work and development is a major responsibility at the core of the Secretariat's work. UIS manages and regularly updates the GAML website, where information and resources are available on the GAML structure, Task Forces, and meetings.

### **Guides and Data Tools:**

This year, the development of several tools that aim to promote a better understanding of the production and use of SDG 4 data among stakeholders was a major highlight. Together, they will allow stakeholders to know who produces the data, how the indicators are developed, where to find the data, and – most importantly – how to use the information. New UIS tools include:

- The [Quick Guide to Education Indicators for SDG 4](#), which describes the process of developing and producing the global monitoring indicators while explaining how they can be interpreted and used. This is a hands-on, step-by-step guide for anyone who is gathering or analyzing education data.
- The [SDG 4 Data Book: Global Education Indicators 2018](#), which ensures that readers have the latest available data for the global monitoring indicators at their fingertips. The SDG 4 Data Book will be regularly updated.
- The [SDG 4 Data Explorer](#), which displays data by country, region or year; by data source; and by sex, location and wealth. It allows users to explore the measures of equality that are crucial for the achievement of SDG 4.
- The [SDG 4 Country Profiles](#), designed specifically for Member States, which presents the latest available SDG 4 global indicators in charts and graphs that are easy to understand. For those who need quick facts on specific countries, this is the place to come.
- The [SDG 4 Data "Cheat Sheet"](#) which presents a snapshot of the concept and data sources used to produce the global monitoring indicators.

### **Blogs:**

Following the dissemination of these tools, UIS started publishing a series of blogs to highlight the key content from these new resources. The blogs are listed and described below.

- [Calling All Assessment Experts! Online Consultation on Global Framework of Reference for Mathematics](#) introduces the Global Framework of Reference for Mathematics developed by UIS and the International Bureau of Education (IBE). The framework lists all contents and skills that can serve as a reference to teach, develop, and assess children, youth, and adults. It acts as a reference point, transparency tool, and normative instrument. The blog invited stakeholders to an online consultation, and the feedback was later incorporated for the final version of the Global Framework of Reference for Mathematics.
- [A Global Framework to Measure Digital Literacy](#) introduces the Global Framework for Digital Literacy Skills. The framework acts as a tool that countries can use to monitor progress towards SDG 4, and also serves as a guide to help countries target their policies, interventions and assessment of digital literacy.

- [\*A Sound Investment: The Benefits of Large-Scale Learning Assessments\*](#) highlights the importance of investing in cross-national assessments. It introduces a synthesis paper by UIS that discusses the benefits for countries using cross-national assessment data in educational policy and practice.
- [\*Meet the SDG 4 Data: Preparing Children for Education\*](#) focuses on SDG Target 4.2. It discusses the concepts, calculations, interpretations, data sources, and challenges for indicators 4.2.1 and 4.2.2. It highlights the importance of early childhood education measurement and encourages countries to participate in one of the international projects generating data for these indicators.
- [\*Meet the SDG 4 Data: Measuring How Much Children Are Learning\*](#) looks at indicator 4.1.1. It lays out the concepts, interpretations, and data sources for the indicator, and describes the measurement challenges UIS faces.
- [\*Meet the SDG 4 Data: Indicator 4.4.1 on Skills for a Digital World\*](#) focuses on Target 4.4, specifically global indicator 4.4.1, and introduces the definition, calculations, interpretations, and data sources of the indicator, as well as introduces the final version of the Global Framework for Digital Literacy Skills.
- [\*The Learning Crisis is causing a Skills Crisis. Here's Why\*](#) takes education as a first step in the production of skilled adults in the workplace. It links to a UIS paper that analyses skills and innovations, specifically in the G20 countries. It also links to UIS' new indicator 'Children not Learning' and associates the concept to future employment of the not learning 'adults-to-be'.
- [\*Meet the SDG 4 Data: Measuring Youth and Adult Literacy and Numeracy\*](#) focuses on Target 4.6, discussing concepts such as literacy, the common threshold for literacy, and current sources of literacy data.
- [\*Helping Countries Make the Most of their Education Investments with the Global Content Framework of Reference for Reading\*](#) introduces the Global Framework of Reference for Reading, developed by UIS and IBE. It also introduces two technical papers, which discuss national assessment frameworks for reading and reading curricula from a number of countries. The blog highlights the importance of the framework in relation to the design, development, and implementation of national and global curricula and assessment policies and practices.

### **SDG 4 Data Digest 2018**

The UIS is currently finalizing The SDG 4 Data Digest 2018, which will be published later this year. The Digest addresses the complex issue of learning outcomes. It presents a compilation of the most comprehensive and up-to-date work by international experts and relevant institutions to inform SDG 4's learning indicators.

The digest discusses learning evidence concerning early child development, mathematics and reading skills for school-aged children, and digital and work-related skills for youth and adults. The discussion highlights the conceptual frameworks and tools developed by leading authors and institutions to understand, measure, monitor and support learning for all. It also reflects on the implications of informing SDG 4.

## Secretariat Coordination Support to GAML

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The UIS hosts the GAML Secretariat, which is responsible for communicating with different stakeholders while providing overall guidance on the methodological work associated with the SDG 4 measurement framework.

The UIS GAML Secretariat provides coordination for the GAML community and provides support to Task Force chairs and GAML members. This is done by organizing Task Force virtual meetings and circulating relevant background material. It also involves taking notes during the meetings to clearly outline the agenda of each meeting and to keep record of the development of the Task Force discussions. The Secretariat also manages the online collaborative workspace for the Task Forces, UNESTEAMS. UNESTEAMS acts as an online repository for documents, and allows members to discuss and share their comments on those documents.

The GAML Secretariat also co-ordinates the expert meetings for the Task Forces, the GAML meeting(s) held annually, and the Strategic Planning Committee (SPC) meetings. For these, the Secretariat prepares the invitations, agenda, concept note, background documentation, and meeting summary.

Two expert meetings took place in 2018, for:

1. Indicator 4.6.1: held in Paris, France, in May; and
2. Indicator 4.1.1: held in Paris, France, in September.

Two virtual SPC meeting took place in 2018: in June and September

One GAML meeting took place in 2018: GAML 5 in Hamburg, Germany, in October.

## Indicator Development

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### *Indicator 4.1.1*

The UIS, through GAML, is working on an approach to monitoring learning outcomes for Indicator 4.1.1 of the SDG 4: Quality Education:

*Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics.*

The UIS - as a custodian agency for reporting on the Sustainable Development Goals (SDG) - has a primary goal to develop reporting scales. These reporting scales will support national governments in two ways. First, they will help to effectively measure and monitor students' learning outcomes in mathematics and reading against SDG indicator 4.1.1 over time, in a manner that is as internationally comparable as is scientifically advisable. Second, they will assist in using the data for making informed policy decisions.

A further UIS goal is to facilitate the use of *existing* national and cross-national assessments for measuring and reporting learning outcomes rather than requiring a single assessment to be used by all countries

for SDG reporting purposes. Generating comparability while allowing for latitude in the use of specific assessments is a challenging technical task that the current proposal aims to address.

Both the political agendas and monitoring frameworks of the SDGs and Education 2030 are extremely ambitious. They demand an unprecedented increase in the collection, processing and dissemination from and, most importantly, within countries. Hence, the approach adopted by the UIS would have far-reaching implications not just for the quality and relevance of international statistics but also for how over 200 national education authorities measure learning and improve access to quality education.

The indicator is a multi-tier indicator with grades 2 and 3 in Tier III and End of Primary and End of Lower Secondary are in Tier II according to the basic classification so that the goal posts cannot be moved.

Tier 1: Indicator conceptually clear, established methodology and standards available and data regularly produced by countries for at least 50 per cent of countries and of the population in every region where the indicator is relevant.

Tier 2: Indicator conceptually clear, established methodology and standards available but data are not regularly produced by countries

Tier 3: Indicator for which there are no established methodology and standards available or methodology and standards are being developed or tested

Thus, the methodological requirements refer to

1. Indicator 4.1.1.a. Propose a measurement strategy and methodological development plan to allow cross national comparability.
2. Indicator 4.1.1.b. Expanding comparability to express all assessments in the same reporting scale and minimum standards of quality.

In this context, the UIS, in 2018, carried out the work outlined below.

## **A special focus on indicator 4.1.1.a**

### **Work plan for indicator 4.1.1.a submitted to IAEG-SDG**

In September 2018, UIS submitted a proposal to the United Nations Statistical Commission's Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) to upgrade indicator 4.1.1.a.

The new proposal outlined the methodological aspect of developing the indicator as well as the available sources for data collection. It also outlined the role of GAML and the Technical Co-operation Group in the development of the indicator, as well as the involvement of UIS with stakeholders as cross-national entities and other institutions and donors.

In describing the process of indicator development, the proposal summarised the conceptual, methodological, and reporting frameworks, as well as the consensus building procedure that took place in order to submit the developed methodology for a Tier re-classification request. Each of the frameworks included the concrete activities proposed, in addition to the expected outputs and deliverables.

The proposal also described the role of the Catalogue of Learning Assessments (CLA 2.0) in collecting data and metadata on the indicator, and the role of the Procedural Alignment Tool in terms of collecting data on countries' alignment in terms of content coverage. UIS also described its process of data validation and the collaboration with countries before data was released by UIS.

UIS made two important points in the proposal:

1. Maximum reporting is achieved by allowing some flexibility in reporting (i.e. allowing the reporting of +/- 1 grade) subject to country validation; and
2. Coverage by population share is more relevant than by number of countries (due to the presence of China and India).

#### 4.1.1.a Advocacy Group

UIS is part of an advocacy group on early grade measurement along with the World Bank, Bill and Melinda Gates Foundation, ONE, RTI International, and Global Citizen.

The group works to advocate for early grade measurement by reaching out to country officials, leaders, and ministers of education. It also works with other organizations to promote early grade measurement. The group's work largely centers on communication and outreach.

### Methodological Development for Indicators 4.1.1.a and 4.1.1.b

#### Global Framework for Reference in Mathematics and Reading

The UIS and UNESCO's International Bureau of Education (IBE) have developed draft global frameworks of [reading](#) and [mathematics](#), aimed to help national and international stakeholders map and align curricula with national or international assessment frameworks. Taking into account the results of the global consultations, the final frameworks will soon be available as online references. The tools will allow users to automatically map their national or international assessments to the Global Framework of Reference by answering a series of questions.

#### Policy-based and Test-based Linking

The UIS has set forward the plan to methodologically develop indicator 4.1.1 using policy-based and test-based linking. UIS is in current discussions with implementing partners, and the Bill and Melinda Gates Foundation as a primary donor for the project.

#### Other methodological work

- The UIS published a report entitled "[\*The costs and benefits of different approaches to the SDG indicator on the proficiency of school students\*](#)". The paper takes forward the policy debates around how the world, and specifically the UIS, measure improvements in the proficiency of children, a matter which the Sustainable Development Goals have brought to the forefront. It synthesizes recent debates, highlights issues which may not have received sufficient attention and arrives at informed proposals and recommendations.

## Conferences and Meetings

### ***UIS at RISE***

The UIS was selected to participate at the fourth [Research on Improving Systems of Education \(RISE\) Programme Annual Conference](#), in June 2018 June at the Blavatnik School of Government at the University of Oxford. RISE is a large scale, multi-country research programme developed to answer the question: “How can education systems be reformed to deliver better learning for all?” The RISE Programme Annual Conferences bring together high-profile academics and policy makers for two days of lively debate.

The UIS submitted a paper on its work on the new indicator ‘Children Not Learning’. The paper presented both the methodology and results of the new indicator, and exhibited how UIS brings together the quantity and quality dimensions of the education process to reflect the new SDG 4 agenda.

### ***High-level Consultation by Global Reading Network***

The UIS, in collaboration with USAID's Global Reading Network, held a high-level consultation to explore methodologies for cross-national measurement of student skills. The purpose of the consultation was to identify promising avenues for comparing student outcomes in literacy and numeracy across country portfolios. The meeting took place from August 29th to 31st in Washington, D.C.

During the consultation, participants discussed methodologies for establishing universal standards for minimum proficiency at different achievement levels, explored how to link disparate assessment tools used in diverse contexts and languages so that cut scores for student performance can be established, and identified the advantages, and disadvantages of using social moderation for the purposes of policy linking and cut score moderation. Participants included assessment experts and practitioners from the international, regional, and national levels.

### ***Consensus Building Meeting on Proficiency Levels***

The UIS held a two-day workshop on September 10<sup>th</sup> to 11<sup>th</sup> in Paris, France, to build consensus on the social moderation approach and build consensus among country officials and subject matter experts on the way forward.

During the meeting, participants identified the number of proficiency levels it should use when describing countries' progress in achieving SDG 4.1.1, created “policy proficiency descriptors” for each of the levels, created performance level descriptors in reading and mathematics for each of the levels, and finally, recommended an appropriate minimum proficiency level that UIS should use when judging whether a country is making sufficient progress in attaining SDG 4.1.1.

## Capacity development

### ***Bank of Items***

The UIS has set the plans to develop a global bank of items or constructs with common anchor elements. From a capacity development perspective, these can be integrated into national learning assessments in order to strengthen them and allow for comparability and reporting. At the same time, this bank of items can be used for impact evaluation in order to analyze the effect of specific policy interventions. The bank of items will be hosted by UIS, and as is the case with all UIS products, will be provided free of charge.



### ***Step-by-step guides***

In order to increase the number of countries reporting on SDG 4 indicators, the GAML Secretariat has started a series of reference publications as part of its capacity-development efforts. The newly-published [guide on implementing a national learning assessment](#) provides easy-to-follow instructions for country-level implementation, explaining all the stages of the process – from data collection and analysis to the dissemination of results. Key topics such as financial implications, reporting strategies and integrating other education data sources are also addressed in this reference tool.

UIS also published a second guide – Making the Case for a Learning Assessment – which helps countries to navigate through learning assessment reforms. It presents the arguments to convince stakeholders and key questions to initiate the policy dialogues. It also offers guidance in making decisions regarding the type of assessments as well as highlights some important considerations to be aware of in national implementation.

### ***Benefits of investing in large-scale assessments***

The UIS published a synthesis paper, entitled ‘The impact of large-scale learning assessments’. It explains how countries use data from cross-national assessments in their educational practice and policy; the implications on investment in education resources; and the challenges they faced. The goal is to show countries and donors the impact of investing in large-scale assessments.

This paper is part of the ongoing efforts of the UIS to help countries secure greater and better investment in data in their quest to achieve SDG 4. It builds on the UIS [Investment Case for SDG 4 Data](#), which compares the resources needed to produce the global and thematic indicators in relation to the costs of doing business as usual.

### ***Indicator 4.2.1***

The UIS made a proposal to the Open Society Foundation to fund its interim and medium term plans for indicator 4.2.1.

### ***Indicators 4.4.1 and 4.4.2***

## **Global Framework for Reference on Digital Literacy Skills**

The UIS recently published the Global Framework for Reference on Digital Literacy Skills. The framework was developed by the Centre for Information Technology in Education (CITE) at the University of Hong Kong. The global framework serves as the foundation for thematic indicator 4.4.2, “Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills”.

To achieve this, the European Commission’s Digital Competence Framework for Citizens (DigComp 2.0) was taken as the initial framework. Four empirical studies were conducted to develop the framework: (1) a synthesis of existing regional, national and sub-national frameworks to identify competences relevant for the global context, and in particular, analyzing the extent to which existing, well-developed and all-encompassing frameworks would be relevant (i) for all countries, whether economically rich or poor, and (ii) over time; (2) an analysis of the Digital Literacy (DL) competences demonstrated in ICT using examples in major socio-economic sectors, with a focus on developing countries; (3) an in-depth consultation to

seek experts' views on the appropriateness and use of a global framework; and (4) an online consultation to seek experts' feedback on the proposed framework. Particular efforts were made to include examples and expert views from countries in the following regions: Asia; EU; High-income countries outside the EU; Latin America; Middle East and North Africa; and Sub-Saharan Africa.

A preliminary version of the framework was presented at the World Summit on the Information Society (WSIS) earlier in March, in Geneva, Switzerland.

## Recommendations on assessment tools for monitoring digital literacy within the Global Framework for Reference on Digital Literacy Skills

The UIS recently published a report mapping existing assessments on the global framework of digital literacy skills, evaluating the advantages and disadvantages of selected assessments that cover a large part of the framework, and recommending next steps on an assessment tool.

### Indicator 4.6.1

#### Background documentation

- The UIS published a strategy paper, entitled "*Reducing financial, technical and operational burden of monitoring progress towards SDG 4.6*". The paper looks at alternatives to a full LAMP assessment which allows the reduction of operational, technical and financial burden of fielding LAMP without compromising the ability to compare results across countries and over time.
- The UIS published an options paper on measuring indicator 4.6.1. The paper looks into the options that could be pursued immediately - as the tools and methodologies already exist but need minor modification.
- The UIS also put forward the proposal of a mini-LAMP, a tool, which in addition to the PIAAC and STEP assessment tools, gives countries a choice that could help to produce relevant data for reporting.

The mini-LAMP comes with a package that provides a list of documents ordered by process that guide countries step-by-step towards implementing literacy assessments. The first set of documents is the global public good tools: core background questionnaire, literacy and numeracy cognitive tool and score sheet that provide countries with set of tools for data collection. The second set of documents, guidelines and manuals are to help guide country structure, understand each step of implementation that contribute to the collection and production of data. The third set is the tool or software that provides countries a systematic way, after scoring and cleaning the data, to enter the responses to software and produce results on adult literacy and numeracy to report on SDG 4 indicator 4.6.1.

### Indicators 4.7.4 and 4.7.5

The UIS has been in discussion with the International Association for the Evaluation of Educational Achievement (IEA) about using TIMSS data to measure indicator 4.7.5.

IEA's Trends in International Mathematics and Science Study (TIMSS) will help in measuring the thematic indicator 4.7.5. The topics to be covered in indicator 4.7.5 relate to the "Percentage of 15-year-old students showing proficiency in knowledge of environmental science and geoscience", areas that are partly covered by the TIMSS Grade 8 science framework.

TIMSS assessments use the curriculum (broadly defined by using curricula of the participating countries as a common basis) as the major organizing concept in order to investigate how the participating countries are providing educational opportunities in mathematics and science to students. Additionally, TIMSS investigates in the factors related to how students are using these opportunities.

For indicator 4.7.5, the content domains Biology and Earth Science are regarded as especially relevant. In Biology, two out of the six topic areas covered by the TIMSS science framework, namely the topics "Ecosystems", and "Human health", are useful to measure target indicator 4.7.5. Students are assessed in terms of their understanding of processes and interactions in ecosystems that are essential for them to think about how to develop solutions to diverse environmental challenges (P 40, FRAMEWORK). Furthermore, students should get a "science-based" understanding of human health "in order to improve the conditions of their lives and the lives of others" (p. 40). A more detailed description of the framework for the above-mentioned two topics can be found in Mullis & Martin (2017) on page 42-43.

In Earth science, out of the four topic areas covered in the TIMSS framework, data related to the topics "Earth's resources, their use, and conservation" will be specifically relevant to the measurement of indicator 4.7.5. The objective here is that "students should demonstrate knowledge of Earth's resources and their use and conservation, and relate this knowledge to practical solutions to resource management issues."

## Data Collection

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With regards to data collection, the UIS launched the 2018 UIS Catalogue of Learning Assessments 2.0 (CLA 2.0). CLA 2.0 collects data on learning outcomes from household-based surveys/assessments:

- UIS/LO/CLA2/M2/HBA/DL – Digital literacy skills
- UIS/LO/CLA2/M2/HBA/FLN – Functional literacy and numeracy skills
- UIS/LO/CLA2/M2/HBA/ICT – ICT skills

The CLA 2.0 project is sponsored by the Australian Department of Foreign Affairs and Trade, the United Kingdom Department for International Development and the William and Flora Hewlett Foundation as part of their commitment to improving the learning outcomes of children and youth globally. Technical inputs have been provided by the Australian Council for Education Research (ACER) under the aegis of the GAML.

The questionnaires collect data that covers learning outcome indicators 4.4.1, 4.4.2, and 4.6.1.

## Annex

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### Aligning and reporting on indicator 4.1.1: UIS annotated workflow

#### Acronyms

CS:	Coding Scheme
CAT:	Content Alignment Tool
EGRA:	Early Grade Reading Assessment
EGMA:	Early Grade Mathematics Assessment
GCF:	Global Content Framework
LaNA:	Literacy and Numeracy Assessment
LLECE:	Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación
MPL:	Minimum Proficiency Level
NAEP:	National Assessment of Educational Progress
PAT:	Procedural Alignment Tool
PASEC:	Programme d'Analyse des Systèmes Educatifs de la CONFEMEN
PIRLS:	Progress in International Reading Literacy Study
PISA:	Programme for International Student Assessment
PLD:	Performance Level Descriptors (to define performance/tasks student could do)
RL:	Reference List
SACMEQ:	The Southern and Eastern Africa Consortium for Monitoring Educational Quality
SEA-PLM:	Southeast Asia Primary Learning Metric
TIMSS:	Trends in International Mathematics and Science Study

#### Contents

Executive summary	13
1. Objectives and Structure	14
2. The challenges	14
3. Reporting Consistency: GAML work flow	15
4. Global Content Framework	17
5. Procedural alignment	21
6. Proficiency Framework and minimum level, Linking Strategies and Interim Reporting	23

## Executive summary

4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

The reporting format of the indicator aims to communicate two pieces of information:

- I. the percentage of students meeting minimum proficiency standards for the relevant domains (mathematics and reading) for each point of measurement (grades 2/3; end of primary and end of lower secondary) and
- II. when different programs can be considered comparable, and the conditions under which the percentage can be considered comparable to the percentage reported from another country.

This requires the following inputs to frame the indicator:

- What contents should be measured and what is the percentage of coverage to be covered by a given assessment to be comparable to others?
- What procedures are good enough to ensure quality of the data collected? and
- A proficiency scale where all assessments could be informed (and its conversion function or the linking procedure), and a definition of the minimum level for each domain that would allow the estimation of the percentage of students achieving the minimum proficiency level.

An ideal program for reporting on SDG4.1.1 will have gone through three steps: Conceptual Framework, Methodological Framework, and a Reporting Framework. Each of these contains several complex sub-steps. For various levels and types of assessment, UIS had completed most of this work before accepting the responsibility of being custodian of reporting on SDG4.1.1.

Acknowledging that much work had already been done, UIS has prioritized and motivated others to carry out work that had not yet been done. The table below, and this document in general, summarize the work to date. This is represented in the second column of the table. The rest of this note discusses the focus of UIS's work (second column), and the columns to the right.

**Table 1- Summary of Outputs and Status for GAML deliberations**

Phase/ Tool	Focus of UIS work	Expected Outputs	Status	Expected From GAML
(1)	(2)	(3)	(4)	(5)
Conceptual Framework	Global Content Framework	Global Content Framework (GCF) to serve as reference	Ready for adoption	Acknowledgment
		Content Alignment Tool (CAT)	Drafts for discussion	Adoption
		Online Platform for CAT	Development	Adoption
Methodological Framework	Procedural Alignment	Manual of Good Practices	Finalized	---
		Quick Guides to support implementation in countries	Development	Acknowledgment
		Procedural Alignment Tool Online platform	Finalized	Adoption
Reporting Framework	Proficiency Framework and Minimum Level Linking strategies Interim reporting	Scale and definition of minimum proficiency level	Drafts for discussion	Adoption
		A linking strategy portfolio	Drafts for discussion	Adoption of strategy
		An interim reporting strategy	Finalized	-----

## 1. Objectives and Structure

This annex aims to present the work of the UNESCO Institute of Statistics (UIS) related to reporting on indicator 4.1.1, to inform all members of task force 4.1, and guide the discussions of the 5th GAML meeting in October 17-18, 2018.

The document will explain the flow of work, the activities and the outputs in the context of GAML's broader work program for indicator 4.1.1. We present them in a logical rather than chronological order.

Each of the activities and outputs help build the tools to generate a minimum level of consistency of education systems' reporting against Indicator 4.1.1, while retaining sufficient flexibility for education systems to pursue assessment programs appropriate to their context and needs.

The reporting format aims to communicate two pieces of information:

- I. the percentage of students meeting minimum proficiency standards for the relevant domains (mathematics and reading) for each point of measurement (grades 2/3; end of primary and end of lower secondary); and
- II. when different programs can be considered comparable and the conditions under which the percentage can be considered comparable to the percentage reported from another country.

Following **column 2 of the table above**, this requires the following inputs to frame the indicator:

- What contents should be measured and what is the percentage of coverage covered by a given assessment to be comparable to others?;
- What procedures are adequate to ensure quality of the data collected?; and
- A proficiency scale where all assessments could be informed (and its conversion function or the linking procedure), a definition of the minimum level for each domain that would allow the estimation of the percentage of students achieving the minimum proficiency level.

Next section defines challenges and section 3 provides deeper context and sets the logic of workflow. Sections 4, 5 and 6 go deeper in each of the stages of process following same logic and format.

## 2. The challenges

The challenges of achieving consistency in global reporting go far beyond the definition of the indicators themselves. In many cases, there is no "one-stop shop" or single source of information for a specific indicator consistent across international contexts. Even when there is agreement on the metric to be used in reporting, a harmonising process may still be necessary to ensure that coverage of the data is consistent.

There are two extremes: at least in theory, greatest confidence would arise by reporting using a perfectly equated assessment program while, again in theory, the greatest flexibility would arise if reporting could happen with minimal alignment. Both extremes are unsatisfactory for reasons too complex for this document. UIS's approach is a middle one: allow flexibility of reporting, but with growing alignment and comparability over time, without ever necessarily reaching the extreme of a perfectly equivalent assessment or set of assessments. This would allow any assessment program that follows certain

comparability guides ahead of time, as well as certain quality assurance and procedural guides, to report in the relevant domains. This flexible approach implies developing tools to guide countries' work that, if complemented by capacity development activities, will ensure that Indicator 4.1.1 reporting drives knowledge sharing, and growth in global capacity to use assessment programs as levers for system improvement.

A study conducted by Trevino and Ordenes (2017) sets the stage by [exploring the commonalities and differences between regional and international assessments](#), with the objective of understanding the challenges and options in terms for reporting indicator 4.1.1.

The analysis suggests that:

- The different approaches to measuring indicator 4.1.1 all have advantages and shortcomings in relation to technical issues and feasibility.
- It is necessary to create political agreement and advance the technical sphere to define the minimum level of competency in reading and mathematics.
- It is also necessary to approach procedural consistency so a minimum level of data quality given the heterogeneity among assessment programs is attained.
- The paper lays out four strategies for reporting indicator 4.1.1, including a new unique SDG4 test.
- An alternative to developing a specific instrument with a clear definition of the minimal level of competency. This may ensure high levels of comparability of the results and avoids technical critiques, but loses flexibility.

### 3. *Reporting Consistency: GAML work flow*

The objective is to define the criteria and generate the tools that could serve as:

- **Reference points:**

The content, procedural and reporting alignments provide a common language and approach to the development of assessments contents (for Mathematics and Reading), minimum procedural practices and reporting ensuring comparable monitoring progress towards SDG4 indicator 4.1.1.

- **Transparency tools:**

The adoption of common minimum coverage practices and reporting frameworks could make comparisons more transparent across countries and regions.

- **Normative references:**

The tools to be generated have the potential to become a standard against which countries, regions, institutions, international agencies and professionals benchmark their programs and certificates, and make international comparisons, if they choose to do so. This process already takes place informally in many ways and/or it is now de facto embedded into the various international (and national) assessments.

The workflow is designed following the structure of the implementation of any learning assessment. **Table 1** summarizes the relevant areas of GAML's work and contextualizes the work that has taken place and is taking place, with regard to the three main steps in developing a means of reporting on SDG4. This table provides deeper and more detailed context to the introductory materials presented thus far, and highlights the focus of the current work of the UIS and its partners in the last column. It is exactly the same as column 2 in the introductory table above.

**Table 2- Summary of Process and Focus of GAML**

Phase /Tools	What it addresses	Main Components	Focus of UIS Work
Conceptual Framework	<b>What to assess? - Concept</b> Who to assess? – Population: in and out of school? What contextual information to collect?	<b>Domain and subdomain: minimum coverage</b> Target population Background Questionnaire	<b>Global Content Framework (GCF)</b> <b>Content Alignment Tool</b>
Methodological Framework	<b>What are the procedures for data integrity</b>	Test design Sampling frame Operational design Data generation Data analysis	<b>Good practices guidance</b> <b>Procedural Alignment</b>
Reporting Framework	<b>What format to report?</b> <b>What is the minimum level?</b> <b>How to link or “harmonize”?</b>	Reporting model Scale or proficiency framework Linking Definition of an interim reporting strategy	<b>Proficiency Framework and minimum level</b> <b>Linking strategies</b> <b>Interim Reporting strategy</b>

### 3.1. Conceptual Framework

**What is covered:** Content (what is reading and what is mathematics?) and definition of population and contextual information to collect. Assuming countries are to take definitions based on their priorities on the target population (including only in school children) and the contextual information.

**Scope of work of UIS:** The focus is to define the content framework for each domain and point of measurement and to find a definition on the minimum contents that ensure comparability between tests. This leads to the Global Content Framework (GCF) shown in column 4 above.

### 3.2. Methodological Framework

**What is covered:** Assessment implementation faces many methodological decisions that are not identical between them. Examples of methodological decisions include the format of the test and sampling decisions.

**Scope of work of UIS:** The focus is to define minimum procedural practices that ensure integrity in the data generating process. This leads to the Procedural Alignment work shown in column 4 above.

### 3.3. Reporting framework

**What is covered:** Achieving statistics which are comparable over programmes and countries is perhaps more difficult than is assumed. This is due to the fact that different regions have different traditions



concerning the stringency of proficiency benchmarks at different grades. Moreover, these realities further complicate comparisons across countries, which often involve comparing slightly different grades, even at the same educational level.

The only way to compare is under some criteria and related to a common scale built based on proficiency benchmarks including the definition of a minimum proficiency (that is what the indicator requires) with the accompanying definition of the alignment strategy.

**Scope of work of UIS:** The focus is to define a scale with the associated proficiency definitions, the definition of the minimum proficiency level and a set of linking strategies to the proficiency framework. This leads to the Proficiency Framework and minimum level, the linking strategies, and the interim reporting described in column 4 above.

#### 4. Global Content Framework

This section describes in more detail the work that needs to be done, or is being done, for row 1, column 4, in Table 1 above.

##### 4.1. Why and What

Assessment programs differ in their conceptual frameworks. For example, depending on the curriculum in a country, national assessments usually have different content coverage for a given grade. Furthermore, even domains can be defined differently. In some cases, programs assess different skills, use different content to assess the same domain, and do both differently, even for the same grade.

To assess the degree of alignment among various assessments and to begin to lay out the basis for a global comparison, UIS and the International Bureau of Education (IBE-UNESCO) have collaboratively developed a Global Content Framework (GCF) for the domains of Mathematics and Reading.

##### 4.2. Objective

To define the minimum common set of contents and skills that should be taught and assessed in each of the points (grade 2/3, end of primary, and end of lower secondary) of measurement the indicator requires.

##### 4.3. Expected Outputs

There are three final products:

- (1) Global Content Framework (GCF) of [Mathematics](#) and [Reading](#) to serve as reference (noted above and **Error! Reference source not found.**)
- (2) [Content Alignment Tool](#) (CAT) including alignment criteria (**Error! Reference source not found.**)
- (3) A platform to help countries self-assess (described further below)

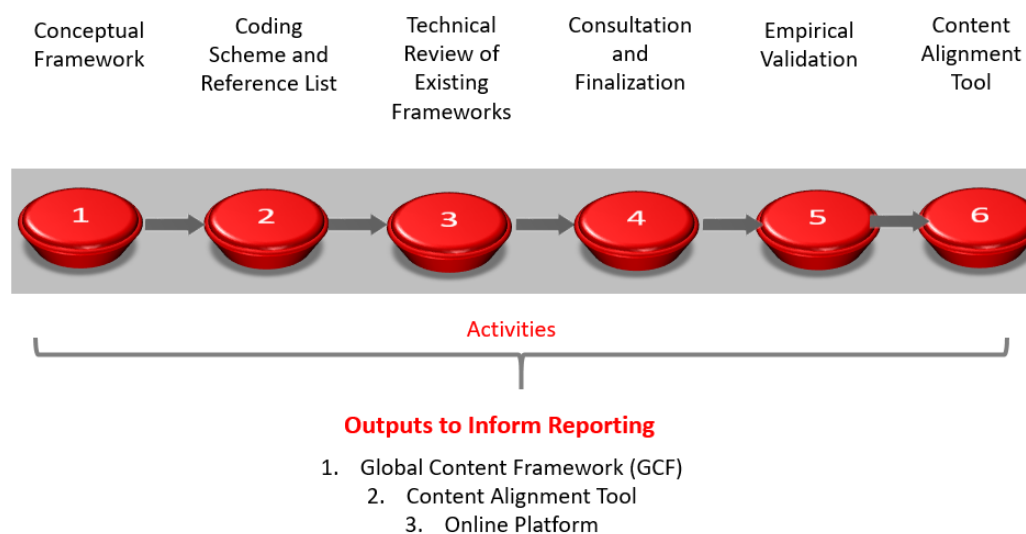
##### 4.4. Expected Outcome

To ensure data integrity with respect to minimum comparability in the concepts each assessment program includes.

#### 4.5. Activities

In order to develop this **GCF**, the following activities were taken, summarized in Figure 1 and described more fully below the figure. Figure 1 helps to explain the process for creating the Global Content Framework (GCF).

**Figure 1. Process to develop the Global Content Framework**



#### Activity 1: Conceptual model

**Definition of activity:** The conceptual development of a global framework based on cognitive learning theory and empirical inputs.

**Scope:** The first analysis used initial inputs from various national curricula, and, subsequently, national assessment frameworks to refine the coverage of frameworks.

Intermediate Products:

- [Method for developing an international curriculum and assessment framework for Mathematics;](#)
- [Method for developing an international curriculum and assessment framework for Reading](#)

#### Activity 2: Development of coding scheme and initial reference list

**Definition of activity:** The **coding scheme and an initial reference list (CS-RL)** for mapping assessments was built based on theory and initial technical review. Qualitative information was used to help further improve the conceptual coverage of the GCF.

**Scope:** This CS-RL was then used to conduct a mapping exercise for 115 Mathematics national assessment frameworks and 73 Reading national assessment frameworks covering various languages and regional representativeness. This mapping shows considerable convergence in what is already assessed globally.

Intermediate Products:

- [Monitoring Progress towards SDG 4.1: \*Initial analysis of national assessment frameworks for Mathematics and\*](#)
- Monitoring Progress towards SDG 4.1: [Initial analysis of national assessment frameworks for Reading](#).

Status: **Finalized - To inform GAML plenary**

### Activity 3: Technical review of existing frameworks

**Definition of activity:** (i) The technical review of mathematical and reading concepts and competencies assessed at the regional and international levels includes the initial review of existing assessment frameworks, identification of trends, differences, and commonalities using a coding scheme (CS). The CS grants that definitions of domains, sub-domains, constructs, and sub-constructs are comparable<sup>1</sup>. (ii) Analysis focused on assessment frameworks given their specificities. Curricula were used to “back fill” the mapping if needed.

**Scope:** The initial review was conducted by looking at all regional and international assessment, including the following tools: EGMA, EGRA, ePIRLS, LANA, LLECE, PASEC, PILNA, PIRLS, PISA 2015, PISA 2018, PISA for Development (PISA-D), SACMEQ, SEA-PLM, and TIMSS (assessments in alphabetical order).

Intermediate Products:

- A database ([International regional assessments](#)) presents a mapping of the contents of the assessment frameworks of the aforementioned assessments, following the coding scheme for national assessment frameworks. The information shows differences and commonalities in terms of both structure and content<sup>2</sup>.

Status: **To inform GAML5 plenary**

### Activity 4: Consultation and finalization

**Definition of activity:** The proposed global framework that incorporated a revision based on Activity 3, which includes an improved Coding scheme and Reference Lists (CS-RL), was sent for online consultations to receive feedback from diverse actors.

**Scope:** The consultation focused on the first two levels of the global framework: domain and sub-domain, and participants were asked to test the new framework by using it to map their country's national assessment frameworks at these two levels.

- [Global Content Framework of Reference for Mathematics: Global Consultation Results](#)
- [Global Content Framework of Reference for Reading: Global Consultation Results](#)

**Output 1:** The consultation feedbacks have been used as input to review and update the content reference list and further **improve the GCF descriptors**. The **GCF descriptors** present the ‘preferred’ learning into groups and they are further classified into in four categories: Domain, Sub-domain,

<sup>1</sup> Information on sub-constructs is present only in four assessments for both subjects, due to the different categorisations each assessment framework followed.

<sup>2</sup> This could serve to further analysis in later stages.

Construct and Sub-construct, from the most global (Domain level) to the most detailed (Sub-construct level). The presentation is to help conceptualize the grouping of learnings which may happen at different stages of learning development or build on other learnings. The descriptors are grouped by concept and not by development stage.<sup>3</sup>

- [Global Content Framework of Reference for Mathematics](#)
- [Global Content Framework of Reference for Reading](#)

Status: **Finalized - To inform GAML plenary**

### Activity 5: Empirical validation

**Definition of activity:** To analyze how the emerging GCF compares to the international assessment frameworks. Improves the mapping of the international assessments frameworks onto the GCF.

**Scope:** (i) The International assessment framework includes IEA's TIMSS, PIRLS and OECD's PISA. Given that these are the most known by countries and have well established conceptual and analytical frameworks with rigorous psychometric properties in assessment, they are used as initial comparison to the global framework to validate the comprehensiveness of global content framework. (ii) Looks at how national frameworks (Assessment) align to the GCF for a selected group of 20 countries.

Intermediate Products:

- **International:** several short papers show mapping of the respective assessment frameworks from each of the international assessment to the GCF and found that in most cases the global frameworks for reading and math are more comprehensive. The GCF have a wider range of coverage than TIMSS and PISA.
  - [GCF TIMSS Alignment paper](#)
  - [GCF PIRLS Alignment paper](#)
  - [GCF PISA Math Alignment paper,](#)
  - [GCF PISA Reading Alignment paper.](#)
- **National:**
  - [Comparative Analysis of Curriculum National Assessment Frameworks for Mathematics](#)
  - [Comparative Analysis of Curriculum National Assessment Frameworks for Reading](#)

Status: **Finalized - To inform GAML plenary**

### Activity 6: Content Alignment Tool

**Definition of activity:** Since countries' assessment programs do not need to cover all contents in the GCF but should cover in a proportion of the framework, it is necessary to generate a mechanism for countries to assess their alignment to the GCF.

<sup>3</sup> The feedbacks from the global consultation suggested that the mapping should be done at least at construct level with inputs of sub-construct as references. This also helped the UIS conceptualize the interactive platform for data collection that would be accessible to country.

**Scope:** Generate the tools that, in a simplified way, allows one to map assessment frameworks, against the GCF, in order to:

- Generate a content alignment questionnaire using the GCF as a reference point.
- Define preliminary criteria about minimum alignment to help countries evaluate whether their assessments have met minimum content coverage to ensure reporting. This will be discussed at the GAML plenary.
- Generate a tool to map and assess the level of alignment (coverage) of national assessment frameworks to the GCF.

### Outputs 2 and 3:

- [Content Alignment Tool](#) for assessment programs not studied by IBE.
- *A platform* that would generate a database with the countries alignment to GCF

The multilingual website would display geographic heat-map and charts and invite users to complete an online survey designed to capture the data needed to complete the 4.1.1 Global Content Framework and will allow, afterwards, to compare a given country against another country, a region, or the world.

Respondents will enter data via a series of questions that form a dialogue between the respondent and the UIS. The respondent's answers will be stored in a database

When the questionnaire is completed, the system should provide to the user a scorecard that measures the level of compliance of the national against the global framework in reading and/or mathematics.

Status: **Finalized - Waiting for GAML plenary adoption**

## 5. Procedural alignment

This section describes in more detail the work that needs to be done, or is being done, for row 2, column 4, in Table 1 above.

### 5.1. What and why?

Robust, consistent operations and procedures are an essential part of any large-scale assessment, to maximise data quality and minimise the impact of procedural variation on results. Examples of procedural standards may be found in all large-scale international assessments, and for many large-scale assessments at regional level, where the goal is to establish procedural consistency across international contexts. Many national assessments also set out clear procedural guidelines, to support consistency in their operationalization.

Assessment implementation faces many methodological decisions including test formats and sampling decisions. There is no need for identical procedures and format across assessments. However, there is a need for a minimum set of procedures so data integrity is protected, and results are robust as well as reasonably comparable for any given country over time, but also across countries at any given point in time.

### 5.2. Objective

To define the minimum procedures that ensure data integrity

### 5.3. *Expected Outputs*

1. [Manual of Good Practices in Learning Assessment](#)
2. [Quick Guide: Making the Case for a Learning Assessment](#)
3. [Quick Guide: Implementing a National Learning Assessment](#)
4. [Procedural Alignment Tool](#)
5. [Online procedural alignment tool platform](#)

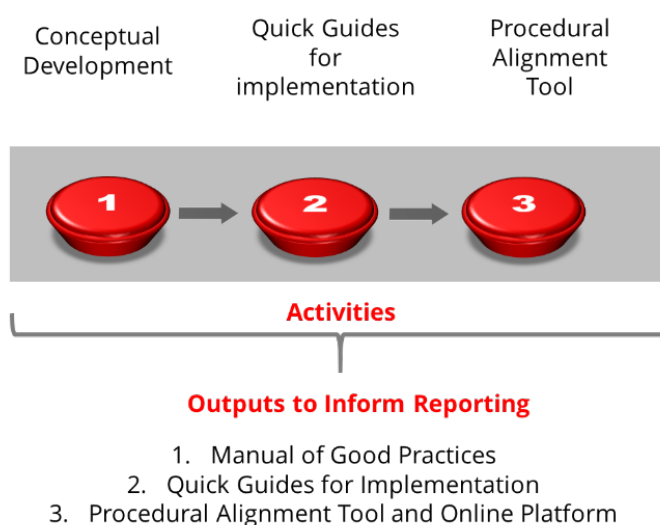
### 5.4. *Expected Outcome*

Generating process with a minimum level of data integrity, sufficient enough to report and compare results from different assessment programs.

### 5.5. *Activities*

The workflow process of activities to develop the procedural alignment tool are described in Figure 2 and described more fully below the figure.

**Figure 2. Process to develop the Procedural Alignment Tool**



#### Activity 1: Conceptual development

**Definition of activity:** To define a set of good practices in an assessment cycle that could ensure the production of good quality data

**Scope:** (i) To define based on existing literature and documents a set of good practices to guide implementation; (ii) To define quick guides to the implementation of SDG4; (iii) To generate a tool and scoring guide to assess compliance with minimum standards.

#### Output 1

- [Manual of Good Practices in Learning Assessment](#) (GP-LA): a guideline of good practices, and
- Two quick guides on learning assessment for reference: [Making the Case for a Learning Assessment](#) and [Implementing a National Learning Assessment](#)

Status: Endorsed

### Activity 2: Quick guides for implementation

**Definition of activity:** To provide countries an abridged and handy tool to implement assessments

**Scope:** cover broader guidance on key issues

- Why carry out a learning assessment and main procedural decisions to take
- How to implement a learning assessment
- How to maximize the data collection to report on SDG4 using learning assessment

#### Output 2

- Measuring SDG4 using Learning Assessment (*under development*)
- [Making a case for a Learning Assessment.](#)
- [Implementing a National Learning Assessment.](#)

Status: In development – To inform GAML plenary

### Activity 3: Procedural alignment tool

**Definition of activity:** to ensure reported data for indicator 4.1.1 have an acceptable quality,

**Scope:** (i) Questionnaire, (ii) Scoring guide, (iii) Online platform

#### Outputs 3 and 4:

- [Procedural Alignment Tool and](#)
- [Online procedural alignment tool platform](#)

Status: *Finalized - Waiting for GAML plenary adoption*

## 6. Proficiency Framework and Minimum Level, Linking Strategies and Interim Reporting

### 6.1. What and why?

This section describes in more detail the work that needs to be done, or is being done, for **row 3, column 4, in Table 1 above.**

Assessment programs typically report using different scales. Analysis of results therefore remains contained to one particular test, methodology and scale. While methodologies tend to converge between international and regional assessments, it is still difficult to situate assessments in a common reference continuum of learning outcomes for each level and domain.

Currently, there are no common standards as a global benchmark. While data from many national learning assessments are readily available, every country sets its own standards, leading to inconsistent definitions of performance levels. This is also true with cross-national learning assessments, including international and regional learning assessments. For education systems who participated in the same

cross-national learning assessments, results are comparable, but not across different cross-national learning assessments, and certainly not across national assessments.

The most important issue in the definition of the scales are the proficiency benchmarks or levels embedded within the numerical scale and their cut points on that numerical scale. These benchmarks are typically associated with Proficiency Level Descriptors, which describe in some detail the skills that are typical of students at any given cut point in the scale. Typically, an overarching policy statement or policy definition gives meaning to the succession of cut scores and the proficiency levels but most importantly for defining what constitutes a *minimum* (which is what the SDG4.1.1. indicators call for) proficiency level that has reference to the content<sup>4</sup>.

## 6.2. Objective

To define a scale where all the learning assessment programs could be located and the definition of a linking strategy to that scale. The definition of the scale implies:

- A metric that is arbitrary
- The definition of a set of proficiency levels or benchmark including the minimum level
- The policy statements associated to the sets of benchmarks

## 6.3. Expected Outputs

The final products are:

- *Scale for each domain and point of measurement (benchmarks and definition of the minimum proficiency level or each domain and point of measurement).*
- *A portfolio of linking strategies and the tools that allow to locate assessments proficiency levels in a scale*
- [An Interim reporting](#) strategy protocol

## 6.4. Expected Outcome

A proficiency scale that involves the definition of performance levels that are required of students to be proficient, the definition of the number of performance levels, determining the labels and writing descriptions for the levels of the proficiency metric<sup>5</sup>. Once completed, it could be used to identify roughly comparable proficiency benchmarks within national assessment programmes and even examinations.

## 6.5. Activities

There are several proposals from different international organizations on how to link assessments to a common scale using different approaches and methodologies in a process summarized by Figure 3 and described below.

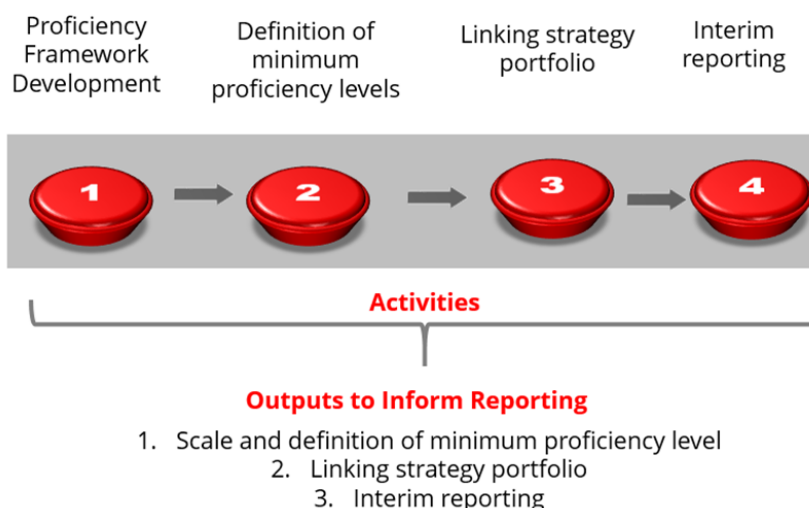
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<sup>4</sup> Taking from the [NAEP](#) on policy statement: “Policy definitions are general statements to give meaning to the levels.”

<sup>5</sup> The initial development of the reporting proficiency scale would draw from both expert opinion and analysis of existing data and policy level descriptors.



**Figure 3. Process to develop the Procedural Alignment Tool**



### Activity 1: Proficiency Framework

**Definition of activity:** A proficiency scale that involves the definition of common content standards, the definition of the number of performance levels, determining the labels and writing descriptions for the levels of the proficiency metric<sup>6</sup> along with set of agreed-upon policy statements about the abilities of students

**Scope:** All cross national assessment programs and their reporting scale in initial mapping

Intermediate Products:

- Document with a proposed proficiency framework empirical scale, preliminary performance level descriptors (PLDs) and the set of minimum proficiency level (MPLs) based on these descriptors:
  - The mapping of all proficiency levels of existent cross-national assessments with their descriptors, put into a standardized language, and building a continuum based on PLDs from lower to higher levels of proficiency for each domain regardless of grade.
  - Based on this prior step, define a proficiency framework including proposed preliminary performance level descriptors (PLDs).
  - Alignment with the GCF

Status: Discussed in September. The UIS, through a consensus building meeting with cross-national agencies and country representatives discussed and refined this proficiency framework.

### Activity 2: Minimum Proficiency Level (MPL)

**Definition of activity:** To define a minimum **global proficiency level** for each point of measurement and domain including the **performance level descriptors (PLD)**.

<sup>6</sup> The initial development of the reporting proficiency scale would draw from both expert opinion and analysis of existing data and policy level descriptors.

**Scope:** The following inputs will be used to define the output

- the mapping of cut-points in each cross-national assessment that define the MPL
- the analysis of experts about the number of cuts needed (to accommodate countries at different socio- and economic-development stages) for this framework at each of the three educational levels knowing that for some countries the MPLs chosen as global reference might be too high a value while for others it will be too low.
- The set of cutoff points and their descriptors are convenient to set a framework that can contextualize the minimum level, but are not necessary for global reporting—only the minimum level is.

Intermediate Products:

- *Document* with a proposal of the global minimum proficiency level for each point of measurement and domain in SDG4 4.1.1 including the PLDs. ([link to summary paper by content experts – to come](#))

Status: [Under development to be discussed in September and in GAML plenary](#)

### Activity 3: Linking strategies

**Definition of activity:** (i) A linking strategy portfolio to link assessments and locate them in the scale; (ii) A mapping of what and when to link

**Scope :**

**Strategy 1 - Non-statistical approach:** Pedagogically informed recalibration of existing data – policy linking.

- Policy linking approach involves using the proposed framework that describes the range of competencies that children/youth have at each level to locate proficiency levels from alternative assessment programs based on the PLDs and guided by experts' judgement.
- This proposal would allow one to expand coverage in terms of educational systems reporting for SDG 4. For instance, coverage at the primary level would double, in terms of the population-weighted world, if national assessments were included.

**Strategy 2 - Statistical approach**

- **2.a. Psychometrically informed recalibration based on common items.** One version has been proposed by ACER as part of an overall proposal of progression in learning but options are not exhausting there<sup>7</sup>.
- **2.b. Recalibration through the running of parallel test on representative sample of students.** IEA outlines the ['Rosetta Stone'](#) solution that deals only with the primary level and allows two assessment, one international other regional to be expressed on the same scale. Concretely, the proposal states that sub-samples of students in three to five countries per programme would

<sup>7</sup> Note that the reference scale is built from items coming from various assessments.

write not just the regional tests, but also IEA's test. This would produce a 'concordance table' with all countries, participating and not participating in the same scale<sup>8</sup>.

- **2.c. Recalibration of existing data.** This approach relies largely on statistical adjustments<sup>9</sup> taking advantage of the fact that some countries, referred to as 'doubloon countries', participate in more than one cross-national programme. Using several such overlaps has allowed for the identification of roughly comparable proficiency thresholds. It could serve to double check but there is foreseen unlikely political buy-in.

**Strategy 3- New test:** a third strategy could be to develop a new test that all countries take for reporting under common comparable tool but this is neither politically feasible nor cost-efficient so it has not been followed..

#### Weighing on options

These efforts should be taken more as complementary routes than as alternative options in order to minimize risk. The strategies help each other to build a sustainable reporting strategy. It is easy to see

- **Stepping stones between strategy 1 and 2a**
- **Complementarity between 1 and 2b** (as the Rosetta Stone needs to be expressed in a proficiency framework).
- And checking for **2 c as proposed by Trevino and Ordenes.**

Intermediate Products

Reporting Scale:

- Document with a proposal of the minimum proficiency level for each point of measurement and domain in SDG4 4.1.1 containing the PLDs.
- Linking options
- **Strategy 1 - Non-statistical** approach there is a paper to be discussed on [Social Moderation \(SM\)](#)
- *Toolkit to align (will be developed)*
- **2.a. Psychometrically informed recalibration based on common items**
- **ACER proposal**
- **2.b. Recalibration through the running of parallel test on representative sample of students**
- Rosetta Stone
- Concordance Table
- **Weighing on options: Costs benefit analysis of linking strategies**

<sup>8</sup> For countries the option is to either participate in a regional program or in a global program (something that might be difficult or not possible if the region does not have any regional initiative).

<sup>9</sup> See Altinok, N. (2017). "Mind the Gap: Proposal for a Standardised Measure for SDG 4-Education 2030 Agenda". UNESCO Institute for Statistics (UIS).

- The UIS has commissioned a [paper](#) that summarize the various alternatives (except ACER's item based linking approach) with its costs and benefits. It is hoped that this paper will provide an overview to help the plenary think through the best way forward on linking.

Status: Under development to be discussed in September

#### Activity 4: Interim reporting

**Definition of activity:** To provide a reporting strategy until the content and procedural alignment are finished

**Scope:** The UIS has defined an interim reporting strategy that lies within the long-term vision of the UIS reporting strategy.

Currently, the UIS is accepting all national and international assessment data with footnotes and qualifiers to explain where the data come from and to help the users in understanding the limitations of these data.

**Table 3 – Interim reporting in a nutshell**

	In school- Based		Population Based	What Grade
	Cross National	National		
2/3 Grade	LLECE PASEC TIMSS PIRLS	Yes	MIC6 EGRA/EGMA PAL Network	2/3
End of Primary	LLECE PASEC SACMEQ PILNA SIMEAO TIMSS PIRLS	Yes	PAL Network	Plus one minus one of Last Year of Primary according to ISCED level in your country
End of Lower Secondary	TIMSS PISA PISA4D	Yes	Young Lives	Plus <b>two</b> minus one of Last Year of Lower Secondary according to ISCED level in your country
Definition of Minimum Level	The ones defined by each assessment by point of measurement and domain			
Grade for End of Primary and End of Lower Secondary	As defined by the ISCED level of each country			
Validation	Send from UIS for countries approval			

*Note: TIMSS/PIRLS Grade 4: these results are allocated to the end of primary when, according to the ISCED levels in a given country, there are 4 grades in primary. When primary has more than 4 grades, they are allocated to grade 2/3.*

#### Output 4:

- [Interim reporting](#) strategy protocol

Status: Developed and published

