Harmonizing national assessments with global standards to enable reporting against the SDGs and better inform education policy: case studies from Lesotho and Rwanda

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Purpose and scope

This presentation explores how Lesotho and Rwanda aligned their national assessments with the UIS Assessment for Minimum Proficiency Levels (AMPL).

It will demonstrate how a Common Person Alignment (CPA) approach enables national assessments to be statistically linked to AMPL, allowing countries to use these national assessments to report against SDG 4.1.1.

Background

Global challenges for education systems

Over 60% of countries lack reliable learning data due to challenges involving the collection, analysis, and reporting, of high-quality education data across learning areas like reading and numeracy. These challenges include:

- Assessments **focusing** on curriculum knowledge.
  - Failure to collect and measure of sub-skills that are crucial for pinpointing gaps in learners' abilities

- **Limited** psychometric capacity.
  - Inability to compare data over time

- **Infrequent** implementation of (international) assessments
  - Lost opportunities to inform meaningful policy and practice

- Donor-driven assessments having **limited scope and sustainability**
  - Donor projects may be unsustainable, implemented within restrictive timelines, and limited to the beneficiaries of these assessments

(Learning data compact partners (2022); Montoya (2023); UNESCO Institute of Statistics (2024))

Importance and relevance to SDG 4.1.1

- Given the aforementioned challenges, there is a need to improve system policies and processes so countries can make progress towards **monitoring SDG 4 targets**.

- SDG 4.1.1 tracks the proportion of children achieving minimum proficiency in reading and mathematics at three key stages:
  a. Grades 2/3 (end of lower primary)
  b. End of primary
  c. End of lower secondary.

- Collecting data on these indicators provide important information on education system performance and help stakeholders **monitor progress toward inclusive and equitable education**.

UIS and ACER collaboration

The UIS and ACER have collaborated to support education systems and policymakers with the collection, analysis, reporting, and monitoring of reliable learing data. This has included developing:

- **Minimum Proficiency Levels (MPL)** according to agreed knowledge benchmarks for mathematics and reading across ages and grades, and as measured through learning assessments (UNESCO Institute for Statistics and Australian Council for Educational Research, 2025).

- **Global Proficiency Framework (GPF)** to provide internationally standardised definitions of reading and mathematics constructs, and up to four Proficiency Levels (including MPLs) across grades and learning areas (UNESCO Institute for Statistics and Australian Council for Educational Research, 2020a, b).

- **Rigorous research and assessment methods** to support learner assessment

UNESCO Institute of Statistics (UIS) Assessment for Minimum Proficiency Levels

Overview of Assessment for Minimum Proficiency Levels (AMPL)

- Developed by UIS and ACER to support SDG 4.1.1 monitoring and reporting.

- Assesses student performance in reading and mathematics at the end of lower primary and at the end of primary in alignment with corresponding SDG 4.1.1a and b criteria for reporting.

- Specifically, AMPL can be used to:
  1. **AMPL-a** test design: Provide reporting for SDG 4.1.1a at the **end of lower primary.**

  2. **AMPL-b** test design: Provide reporting for SDG 4.1.1b at the **end of primary.**

Overview of Assessment for Minimum Proficiency Levels (AMPL)

3. **AMPL-ab** test design: Provide reporting for SDG 4.1.1a **and** b for students at the **end of primary**
   - Useful for system stakeholders who expect a large proportion of students at the end of primary who will not reach MPL-b.

   - **Overarching objective**: Measure and analyse student performance at the **end of lower and upper primary** using an assessment that aligns with the GPF.
     - This will:
       1. enable the collection of informative data about where students are performing in terms of the MPLs at the end of lower and upper primary in reading and mathematics
       2. produce baseline measures to set targets and compare learning gains/losses over time
       3. facilitate reporting on SDG 4.1.1
       4. aid the tracking of learning progress over time (UNESCO Institute of Statistics, 2023).

AMPL goals

- Provides high-quality, internationally comparable learning data.
- Enables development of baseline population estimates for reading and mathematics proficiency for SDG 4.1.1a and b, and allows participating countries to set system-level targets for improvement.
- Supports stakeholders to track learning progress over time.
- Address gaps in the availability of comparable learning data, especially in the lower primary years, by providing a range of tools and standards for collecting, analysing and reporting data, these being:
  - Assessments for reading and mathematics
  - Student and school questionnaires
  - Technical standards, guidelines, and standardised documents (e.g., for project management, translation/adaptation, test administration, sampling, and data management).

AMPL implementation models

System stakeholders can choose to implement AMPL in various ways:

- **Standalone.** AMPL is used independently to assess minimum proficiency levels.
- **Integrated**: AMPL is embedded into a national or regional assessment.
- **Common person alignment:** AMPL is administered alongside a national assessment, using a common student sample, to establish the SDG 4.1.1 benchmarks on a national assessment scale.

Integrating AMPL, or using common person alignment, allows systems to independently use national assessments to report against SDG 4.1.1a and b and offer an external perspective of national data.

Common person alignment: implementation steps

Statistically linking a national assessment with AMPL using common person alignment involves the following steps:

- **Conceptual Alignment**: The reading and mathematics constructs must be aligned with the GPF and MPL definitions

- **Sampling**: National student samples must be representative of the SDG 4.1.1a (or b) target population, in accordance with UIS reporting criteria and the AMPL Technical Standards; a minimum of 150 schools and 3000 students should be sampled across target grades

- **Maintain standardised test administration procedures:** AMPL must be administered following the standardised test administration guidelines, test scripts, and procedures outlined in the AMPL technical standards and field operations manuals.

- **Scaling**: Apply valid and reliable psychometric approaches, such as item response theory and equipercentile methods to align scores.

AMPL blueprint

- Paper-based assessment
- Mathematics and reading learning areas aligned with the MPLs for SDG 4.1.1 (AMPL-a) and SDG 4.1.1b (AMPL-b) – see table
- Unique characteristic of reading blueprint: Assessing learners' ***listening comprehension and listening decoding*** **skills** by presenting students with pre-recorded audio items for them to respond to
- Ideally, IRT scales are created for a national assessment to apply benchmarks for future testing

AMPL mathematics and reading learning areas

	Mathematics	Reading
AMPL-a	Number and Operations	Listening comprehension
	Measurement, Geometry	Decoding
	Statistics, Probability and	Reading comprehension
	Algebra	
AMPL-b	Number and operations	Reading comprehension
	Measurement	
	Geometry	
	Statistics and Probability	
	Algebra	
AMPL-ab	Number and operations	Listening comprehension (AMPL-a)
	Measurement	Decoding (AMPL-a)
	Geometry	Reading comprehension
	Statistics and Probability	
	Algebra	

AMPL test design

- Two-day assessment using test booklets with rotated clusters of mathematics and readings items.
- Includes Student Questionnaire (e.g., home language, books at home) and School Questionnaire (e.g., teacher qualifications).

Example of AMPL-a, AMPL-b, and AMPL-ab test designs

	Day-1		Day-2	
	Part 1 **Cluster 1**	**Part 2** **Cluster 2**	**Part 3** **Cluster 3**	**Part 4**
AMPL-a booklet 1	Listening comprehension and Decoding	Mathematics	Reading	Student Questionnaire
AMPL-a booklet 2	Listening comprehension and Decoding	Reading	Mathematics	Student Questionnaire
AMPL-b* booklet 1		Mathematics	Reading	Student Questionnaire
AMPL-b* booklet 2		Reading	Mathematics	Student Questionnaire
AMPL-ab booklet 1	Listening comprehension and Decoding	Mathematics	Reading	Student Questionnaire
AMPL-ab booklet 2	Listening comprehension and Decoding	Reading	Mathematics	Student Questionnaire

*Note: AMPL-b does not have listening comprehension and decoding components as these elements are part of AMPL-a. Additionally, the test designs above have been presented as

Country case study: Lesotho

Lesotho – Education Context

- Education in Lesotho is overseen by the **Ministry of Education and Training** (MoET) from early childhood to tertiary levels.

- Lesotho has made efforts to fulfill SDG 4, which aims to ensure inclusive and equitable quality education.
  - 2009 Curriculum and Assessment Policy emphasised learner retention to ensure ten uninterrupted years of basic education, with the 2021 policy review leading to development of the Lesotho Basic Education Policy (LBECP).

- Operating under the MoET, the **Examinations Council of Lesotho (ECoL)** ensures the integrity and quality of national assessments across the basic education system.
  - Oversees public examinations, develops assessment frameworks, and provides guidelines for educational institutions so that reliable assessment data can be collected to inform policy decisions.
  - ***Lesotho National Assessment*** **(LNA)** has a key role in helping to identify learning gaps so that targeted interventions can be implemented in struggling schools to support learners.

Lesotho – Common person alignment implementation

- ECoL implemented AMPL-ab in 2023 with grade 7 students, and in 2025, a second round of AMPL was conducted using a CPA approach with grade 3 students as the target population.
  - This approach aims to report outcomes from the grade 3 Lesotho National Assessment (LNA) against SDG Indicator 4.1.1a.

- To support the ECoL with CPA, ACER reviewed the conceptual alignment of grade 3 LNA instruments (English and mathematics) to UIS reporting criterion 1 in October 2024 and January 2025. These reviews provided important input on enhancing grade 3 LNA instruments and ensured conceptual alignment for CPA with AMPL.

- Implementing a CPA approach involved:
  - Sampling and linking LNA and AMPL-a to ensure samples were representative of the SDG 4.1.1a target population.
  - Using an appropriate IRT model to produce reliability estimates and scale scores for reading and mathematics, matching grade 3 raw scores to AMPL, and establishing equivalent MPA-a benchmarks for the LNA using the equipercentile method.

Lesotho – AMPL Learnings and ways forward

- **Staff shortages** at the AMPL National Centre, creating significant pressures due to project demands and timelines.
  - **Engaged temporary staff** during critical project stages

- **Grade 3 learners seemed to lack experience** with AMPL audio components and multiple-choice items
  - This emphasises the need to:
    - Integrate precursor reading skills into primary school education, and not teaching to the test
    - Explore options for integrating audio components into the LNA going forward, with the SDG 4.1.1a benchmarks set on the LNA reading scale, to enable monitoring of students' reading skills more holistically.

- **Communication challenges** were experienced, particularly with schools in very remote areas where telephone reception can be unreliable, potentially delaying the dissemination of important information.
  - **Collaborated with District Education Managers** who possessed alternative communication methods

Country case study: Rwanda

Rwanda – Education Context

- Rwanda's education system is led by the **Ministry of Education** (MINEDUC) and implemented by the Rwanda Basic Education Board (REB), Rwanda TVET Board (RTB), and the **National Examination and School Inspection Authority (NESA)**.
  - NESA was established in 2021 to supervise the quality of education (basic level and technical secondary schools), monitor educational norms, and administer national examinations and assessments aligned with the Competence-Based Curriculum (CBC).

- The CBC (2015) shifts education from knowledge retention to the development of skills and competencies.
  - Competence-Based Assessments (CBA) integrate continuous formative assessments in classrooms with national-level summative assessments administered by NESA, such as the **Learning Achievement in Rwandan Schools (LARS)**.

- National assessments (e.g., LARS) strongly support the quality monitoring of education in Rwanda's basic education sector, which enhance learning outcomes, identify weaknesses, and provide targeted support to underperforming schools and students.

Rwanda – Common person alignment implementation

- NESA implemented AMPL-a in collaboration with the UIS and ACER to improve foundational learning outcomes and meet global education benchmarks such as SDG 4.

- Developed quality assurance procedures, training and deploying assessors, and used funding support from UIS to procure test materials and resources.
  - A cascade model was used to train school coordinators, test administrators, and national quality monitors.

- The CPA approach ensured that grade 3 LARS and AMPL-a assessments met statistical standards, allowing LARS to serve as a national tool for reporting on SDG 4.1.1a.
  - Promotes sustainability by embedding SDG 4 monitoring into Rwanda's existing national assessment architecture, reducing dependency on standalone international assessments.

Rwanda – AMPL Learnings and ways forward

- **Staffing constraints** at the national coordination level during peak AMPL project phases
  - NESA **temporarily hired data clerks** and initiated **in-house training programs**, fostering long-term institutional capacity and reducing reliance on external expertise.

- **Grade 3 learners (rural and remote especially) appeared** to lack experience with new assessment formats
  - (As with Lesotho) Emphasises need to:
    - Integrate precursor reading skills into primary school education, and not teaching to the test
    - Explore options for integrating audio components into LARS, while aligning SDG 4.1.1a benchmarks with the LARS reading scale, to support holistic student learning and monitoring.

- Ensuring **standardized test administration and maintaining data collection quality**
  - **Implemented a coordinated monitoring system** with national and district observers, provided training sessions, and used reporting checklists and tools.

In closing…

Conclusion & Future Directions

- A common person alignment approach has transformative potential for advancing national assessment systems and aligning them with global educational priorities like SDG 4.1.1a.

- Case studies from Lesotho and Rwanda demonstrate the potential for sustainability and reduced reliance on external assessments, contributing to robust foundational learning measurements.

- Both countries faced challenges such as limited technical capacity, unfamiliarity with new assessment formats, and variability in test administration quality. Strategies to address these issues include targeted training, temporary staffing solutions, and a need to:
  - emphasise the teaching of precursor skills in primary education
  - explore options for integrating different assessment formats into national assessments, to enable monitoring and support student learning and outcomes.

- Future directions for implementing CPA approaches in Lesotho and Rwanda could involve strengthening partnerships with global organizations for technical and financial support, and focusing on scalability, inclusivity, and continuous improvement to inspire broader adoption of CPA methodologies across the continent.

References

Examinations Council of Lesotho. (2021). *Annual Report*. Examinations Council of Lesotho.

Government of Lesotho, Ministry of Education and Training. (2016). *Education Sector Plan 2016-2026. Lesotho | Documents | Global Partnership for Education*. https://www.globalpartnership.org/content/education-sector-plan-2016-2026-lesotho

Learning data compact partners. (2022, October 18). *Measure what matters: Making progress on a common framework to measure learning | Blog | Global Partnership for Education*. https://www.globalpartnership.org/blog/measure-what-matters-making-progress-common-framework-measure-learning

Ministry of Education and Training (Lesotho). (2020). *Lesotho National Curriculum Policy*. Government of Lesotho.

Ministry of Education Republic of Rwanda. (2019). *Education sector strategic plan 2018/19 to 2023/24*. https://planipolis.iiep.unesco.org/en/2019/education-sector-strategic-plan-201819-202324-6812

Montoya, S. (2023). *An efficient and effective tool for global reporting and strengthening capacity to conduct national assessments*. UNESCO Institute for Statistics. https://ampl.uis.unesco.org/wp-content/uploads/sites/2/2023/09/AMPL_Paper_Kenya_AEAA_2023.08.14.pdf

UNESCO Institute for Statistics and Australian Council for Educational Research. (2024). *Assessments for Minimum Proficiency Levels a and b (AMPL-ab): International report*. UNESCO. https://doi.org/10.54675/ELPT8720

UNESCO Institute for Statistics and Australian Council for Educational Research. (2025a). *SDG 4.1.1 Minimum Proficiency Levels. Definition and blueprint for assessment*. UNESCO Institute for Statistics. https://doi.org/10.37517/978-1-74286-782-3

UNESCO Institute for Statistics. (2020a, December). *Global proficiency framework for mathematics: Grades 1 to 9*. https://gaml.uis.unesco.org/wp-content/uploads/sites/2/2021/03/Global-Proficiency-Framework-Math.pdf

UNESCO Institute for Statistics. (2020b, December). *Global Proficiency Framework for reading: Grades 1-9*. https://gaml.uis.unesco.org/wp-content/uploads/sites/2/2021/03/Global-Proficiency-Framework-Reading.pdf

UNESCO Institute of Statistics. (2023). *Technical Standards: Assessment of Minimum Proficiency Level (AMPLab).* https://ampl.uis.unesco.org/wp-content/uploads/sites/27/2024/02/3.2_A-summary-of-the-extent-to-which-the-technical-standards-relating-to-ACERs-work-were-met.pdf

Thank you