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UNESCO Institute
for Lifelong Learning

GAML Taskforce 4.6 Progress Report 2018

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Learning

Progress Report of GAML Task Force for SDG Target 4.6

1. Introduction

Taskforce 4.6 is responsible for providing advice on measures for monitoring progress towards SDG Target 4.6, in particular SDG Indicator 4.6.1 “Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex”.

Taskforce 4.6 is co-chaired by Ms Margarete Sachs-Israel¹, the UNESCO Institute for Lifelong Learning (UIL) and Mr William Thorn, the Organization for Economic Cooperation and Development (OECD).

In the framework of the Global Alliance to Monitor Learning (GAML), two expert meetings were organized by the UNESCO Institute for Lifelong Learning (UIL) in close collaboration with the GAML Secretariat. Subsequently, two core expert groups were established to advance the work on the proposals for global conceptual frameworks for literacy and numeracy, the reporting scales, and fixed minimum proficiency levels. The outcomes of these expert meetings are presented below.

2. Expert meetings and main outcomes

The first expert meeting was held in November 2017 to discuss the global conceptual framework for SDG Indicator 4.6.1. The following proposals were put forth by the experts:

- To adopt the UNESCO working definition of literacy (2005) for indicator 4.6.1.
- To use the PIAAC conceptual framework as a basis for developing a global framework for indicator 4.6.1
- To measure literacy and numeracy separately.
- To focus on reading as the domain for global comparability. Writing, which was considered as an integral component of literacy skills, could be assessed at the national level.
- To extend the PIAAC framework to cover the lower levels of the literacy and numeracy skills spectrum for global assessment and reporting (below PIAAC level 1).

In the second meeting, held in May 2018, literacy and numeracy experts made the following proposals/recommendations:

Literacy:

- To develop an assessment framework to cover the lower levels of literacy proficiency (below PIAAC Level 1) by employing a simple sentence test for global comparability.
- In addition, to consider developing a core item pool for a short literacy assessment module that focuses on lower proficiency levels of reading - mainly fluency, accuracy, and comprehension - with the further possibility for countries to add their own contextualized items for policy and programme intervention goals.

Numeracy:

¹ Ms Rakhat Zholdoshalieva represented UIL as a co-chair of this taskforce until early 2018.

- To extend the PIAAC framework to cover the lower levels of the numeracy skills spectrum, including mental numeracy skills using an oral assessment modality, covering two content areas, namely: ‘Quantity and numbers’ and ‘Measures, dimension & space’;
- To develop a short adaptive numeracy test as an interim strategy, with the possibility for countries to add their own contextualized items;
- If possible, to develop a full-scale numeracy assessment as a long-term strategy to support and develop improved systems of adult numeracy assessment.

3. Establishing Core Expert Groups

Following the second expert meeting in May 2018, UIL established two expert groups on literacy and numeracy (See Annex 1) to further discuss the issues raised in the first and second expert meetings on the measurement strategy for SDG Indicator 4.6.1.

Since then, two core groups (See Annex 2) mainly focused on developing recommendations for the GAML5 plenary meeting in October 2018 on the global content framework for reference and reporting scales for SDG Indicator 4.6.1, including fixed minimum proficiency levels for literacy and numeracy. The virtual meetings of these two groups were organized and facilitated by UIL.

The outcomes of the discussions of the two core groups are presented as reference papers for the GAML5 Plenary Meeting ([GAML5/REF/4.6.1-9](#) and [GAML5/REF/4.6.1-10](#)) for further consultation.

Annex 1: Proposal for the establishment of expert groups on literacy and numeracy



03 July 2018

Background and rationale

At the global level, the measurement of adult and youth literacy and numeracy has become increasingly important in view of SDG indicator 4.6.1, which requires Member States to measure and report on the proportion of the population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex.

This indicator poses new challenges: while several national and cross-national measures focusing on adult literacy exist, they do not fully capture the literacy and numeracy skills of low-literate populations and are not often geared towards low- and lower middle-income country contexts.

Taking into consideration the existing definition of functional literacy and numeracy, how it is operationalized and manifested in the range of skills and competencies required to be considered 'proficient' can vary from country to country. From this perspective, global comparability of data can be challenging.

In view of this and as part of the work undertaken by the Global Alliance to Monitor Learning (GAML),² the UNESCO Institute for Lifelong Learning (UIL), together with the UNESCO Institute for Statistics (UIS), has facilitated work on the development of global measurement frameworks for literacy and numeracy in order to enable countries to collect reliable data and report on indicator 4.6.1.

Two expert meetings have taken place so far, which resulted in the following:

Conceptual framework

1. Adoption of the 2004–2017 UNESCO definition of literacy, including both literacy and numeracy.

² GAML, which was set up by UIS, brings together a wide range of education stakeholders to achieve a global consensus on the frameworks and methodology of measuring learning outcomes to report on those five SDG 4 targets that specifically aim to improve learning outcomes. GAML also aims to build national capacities and improve the understanding and use of data on learning outcomes for improved policies and practices.

2. Adoption of the PIAAC framework as the global framework.
3. Expansion of the assessment framework of PIAAC to capture lower levels of the literacy and numeracy continuum.

Measurement frameworks

The following proposals were made (see the summary report of the expert meeting held in May 2018):

1. Literacy: Agreement on the measurement and reporting of a literacy module. Development of a short core literacy assessment module that focuses on basic levels of reading accuracy and comprehension for global comparability; this will include a small number of items that countries can add their own contextualized items to for future policy and programme planning or for evaluation.
2. Numeracy: Agreement on the measurement and reporting of a numeracy module that is separate to literacy. A short, adaptive numeracy test should be developed as an interim strategy, with the possibility for countries to add their own contextualized items. A full-scale numeracy assessment should be advocated for as a long-term strategy to support and develop improved systems of numeracy assessment.

As a follow-up, it is proposed to set up two expert groups – one on literacy and one on numeracy – to take discussions forward. The two groups will work towards the development of an expanded global assessment framework that addresses, in particular, the measurement of lower levels of literacy and numeracy and explores the feasibility of agreeing on a fixed proficiency level of functional literacy and numeracy.

The two groups will develop interim proposals and recommendations. These will be presented and discussed at the next expert meeting on GAML 4.6.1, which is scheduled to take place in Hamburg, Germany, on 15 and 16 October 2018. The outcomes of this meeting will then be taken to the broader GAML group for discussion and overall agreement at a meeting scheduled for 17 to 18 October 2018, also in Hamburg.

Proposed terms of reference

Linkages to PIAAC

As mentioned above, a decision was taken to use PIAAC as the global framework for the work of reporting on SDG 4.6.1 and to expand it to the lower levels. To move forward, it has been proposed to develop and administer a short assessment with test items targeting adults with low proficiency in literacy and numeracy. This would ultimately involve the development of a general item pool – and, in particular, developing new items to capture skills below PIAAC Level 1 as an essential step for the development of an expanded assessment framework. However, further clarification and agreement regarding linking the outcomes of this assessment to the PIAAC scale is needed.

Furthermore, the expert groups are expected to conduct the following analyses for both literacy and numeracy:

- Analysis of the conceptual frameworks involved (PIAAC, LAMP and to-be-developed UNESCO assessments of literacy and numeracy below current PIAAC Level 1. (See 2.1 and 2.2 for details).
- Analysis of the conceptual linkage of PIAAC and UNESCO/ LAMP reporting levels.
- Analysis of the congruence between the difficulty levels and content of items from PIAAC, LAMP and other sources (depending on possibility of access to items from such sources).

Development of a core module for literacy for global comparability

The literacy breakout group of the expert meeting in May recommended developing a combination of a core module including a small number of items, a simple sentence and a self-assessment question. To move forward, the literacy group is expected to further discuss and describe the task complexity corresponding to the small number of items targeting adults with potentially below-PIAAC Level 1 proficiency, as well as a scheme of reporting for literacy. This requires the development of descriptors of the expanded levels of proficiency in literacy.

For the purpose of reporting on SDG indicator 4.6.1, experts are expected to further discuss the feasibility and desirability of setting a fixed global proficiency level/s of literacy and numeracy (i.e. an 'adequate' or 'sufficient' level of literacy that every country should ideally have). One question is if proficiency levels should be descriptive (describing tasks a person can complete successfully at a certain level) or normative (as a benchmark), and if such a norm can be set at the global level or only at the national level. Another is if descriptors of proficiency levels on a continuum can indicate critical turning points when cognitive skills start to change. Further reflections and recommendations on the issue are required for the literacy group.

Development of a reporting scheme for numeracy for global comparability

The numeracy background paper (Gal, 2018) proposed a possible reporting scheme where Level A and Level B were added and labelled to capture the below-PIAAC/ LAMP Level 1 of the numeracy skill distribution. The numeracy group is expected to discuss whether they would agree on the descriptions and difficulty levels of the proposed Level A and Level B, and to further discuss the range of difficulty levels for Level A and B. Furthermore, the numeracy group is expected to discuss whether they agree on setting a fixed global proficiency level of numeracy at Level E, as proposed by the numeracy background paper (Gal, 2018).

LEVEL	DESCRIPTION/DIFFICULTY LEVEL	COMMENTS
E	Skills related to PIAAC <i>lower</i> 'Level 3	'Adequate level
D	Skills related to PIAAC Level 2 / LAMP Level 2	
C	Skills related to LAMP Level 1 / PIAAC Level 1	
B	Can engage in some (possibly even advanced) mental calculations using indigenous number systems or measurement devices/techniques only. Knows few print-based or formal numeracy symbols and systems, though may be able to do very simply written math problems.	Based on use of minimal or no text, i.e. in part on an <i>oral</i> assessment, in part on items with text-free stimuli
A	HAS RELATIVELY FEW MENTAL CALCULATION SKILLS BEYOND COUNTING OR ADDING OF SIMPLE QUANTITIES. CANNOT RECOGNIZE THE MEANING OF WRITTEN DIGITS OR POSITIONS ON A NUMBER LINE.	

Table 7: A possible scheme of reporting levels for indicator 4.6.1 in numeracy
Note: Proposed as a basis for discussion. Needs coordination with PIAAC and LAMP levels

Content areas in numeracy and literacy

Based on concrete recommendations of the numeracy background paper, numeracy group experts are expected to discuss and decide on whether they agree on the proposal for the following coverage: quantity and number (35%); dimension and shape (25%); pattern, relationships and change (20%); data and chance (20%).

Literacy experts are to discuss and decide on the content areas and item numbers for the core module, which, as proposed, will focus on reading accuracy and comprehension. Specifically, the experts will look at which components should be included in the core module test: (a) word meaning (print vocabulary), (b) sentence processing, (c) passage comprehension or (d) any additional components.

Number of items and their content

Depending on the agreements made regarding 2.1, 2.2 and 2.3, both groups should discuss and define:

- the number of items to be developed;
- item content;
- format of the test modules (computer-based, print-based or oral tests).

In addition, and to support this work, existing items could be harvested from various sources and evaluated.

Possible next steps

Based on the decisions taken in the next GAML meeting in October 2018, future activities of the expert groups could include the development of new items for the core literacy and numeracy assessment modules, piloting and calibration studies.

Composition of the expert groups

The expert groups are informal and participation is on a voluntary basis. Each group should include selected technical experts with a background in literacy or numeracy, some of them being representatives from Member States or from international organizations. Each working group should be composed of (a) a small core group (up to six members) to enable in-depth discussion and consensus building to deliver concrete results and (b) associated advisory members. Additional experts can be called upon for specific tasks as required. If an expert is interested in participating in both groups, this is possible but should not be the rule in order to keep the groups small and manageable.

Working modalities

- Each expert group will choose a facilitator. A focal point person from UIL will support the work of each group.
- The expert groups will meet regularly, via teleconferencing and email consultations.
- Face-to-face meetings of both groups will take place at least once a year within the framework of a broader expert meeting of GAML 4.6.1.
- Within the overall TORs, each group will set its own timeline for the delivery of the outcomes. Interim proposals and recommendations to be made to the full GAML group at its next meeting in October 2018 will need to be ready by end of September 2018, with further work in 2019.
- UIL is responsible for the coordination of the work and will ensure that there is close communication between the two working groups.

Annex 2: Literacy and Numeracy Core Expert Groups

Literacy Core Expert Group

1. Anke Grotlüschen, University of Hamburg, Germany (Literacy Expert Group Facilitator)
2. Greg Brooks, University of Sheffield, UK
3. Anil Kanjee, Tshwane University of Technology, South Africa
4. Scott Murray, DataAngel, Canada

Advisory Members

1. Camilla Addey, Columbia University, USA
2. Hakima Merghebi, Univerisé Paris XIII
3. Juliette Mendelovits, ACER
4. Alamgir Hossen, Statistics and Informatics Division, BBS, Ministry of Planning, Bangladesh
5. So Youn Park, Anyang University, Republic of Korea
6. Janet Rotich, The Directorate of Adult and Continuing Education, Ministry of Education, Kenya

Numeracy Core Expert Group

1. Iddo Gal, University of Haifa, Israel (Numeracy Expert Group Facilitator)
2. Diana Coben, King's College and the University of East Anglia, UK
3. Jean-Pierre Jeantheau, Agence Nationale de Lutte contre l'Illettrisme (ANLCI), France
4. Koji Miyamoto, World Bank, USA

Advisory members

1. William Thorn, OECD
2. Amber Gove, RTI
3. Bryan Maddox, University of East Anglia, UK
4. Dave Tout, ACER