Measurement strategy and action plan for SDG Target 4.6

Proposal by GAML Task Force 4.6 (UIL proposal)

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GAML4/16

> **SDG Target 4.6:**
> by 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

Introduction

In developing a strategy to monitor progress towards Target 4.6., there are conceptual, methodological, and reporting issues.

Current measurement and reporting issues

The main issue at the conceptual level is the agreement on the definitions and dimensions of the constructs of adult literacy and numeracy to be measured by indicator 4.6.1.

UNESCO definition of literacy is a common one that many countries use to develop their policies and measure their progress. UNESCO defines literacy as following:

"Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society." (UNESCO, 2017a; UNESCO, 2017b)

The above defines subsumes the definition of numeracy. As such there is no separate definition of numeracy.

In terms of the conceptualisation of literacy and numeracy as a 'continuum', the situation in the field of adult assessments differs considerably from that of assessments of school age children. Currently there are two cross-country programmes of comparative assessment of adult literacy and numeracy that are currently in place – the Programme for the International Assessment of Adult Competencies (PIAAC) and the World Bank's STEP assessment which uses a version of the PIAAC literacy assessment. The following is the definition of literacy of OECD that the PIAAC is based on:

"Literacy is understanding, evaluating, using, and engaging with written text to participate in the society to achieve one's goals and to develop one's knowledge and potential." (OECD, 2009; 2016).

As such the definitions of PIAAC and UNESCO do not necessarily contradict one another. There are also national direct literacy assessments that are often based on the above UNESCO definition.

The PIAAC assessment frameworks draw on a theoretical tradition which has underpinned the conceptualisation of literacy and, subsequently, numeracy in the International Adult Literacy Survey (IALS), the Adult Literacy and Life Skills Survey (ALL) and UNESCO's Literacy Assessment and Monitoring Programme (LAMP). The conceptualisation of literacy and numeracy in PIAAC (and its predecessors) is closely related to that on which many international school-based assessments such as PISA, TIMMS, PIRLS and PASEC are based. The PIAAC literacy framework includes a reflection on

the measurement of the skills that are preconditions for reading comprehension (described as reading components): print vocabulary knowledge, sentence processing and fluency.

Writing is included in the definition of 'literacy' cited above. However, there is no well-developed conceptual framework that could guide the assessment of writing in an international comparative setting and there are formidable practice challenges to assessing it. A position on the assessment of writing as part of literacy in the context of the SDGs needs to be developed and agreed.

Current literacy data is measured by omnibus or multi-purpose household surveys such as DHS, MICS, living standards surveys and censuses usually collect some information regarding literacy. Often a head of the household answers a single question: Can you or others in your household read and write a sentence? Some of such surveys also test adults' ability to write a sentence. In other surveys, literacy is assessed by a proxy measure on educational attainment.

This validity of this information (based on very simple reading tests or respondent reports) is largely unknown.

Dedicated national literacy and numeracy assessments exist. However, national assessments have been undertaken by a relatively small number of countries. They are also often based on country specific conceptual and assessment frameworks that make comparison of results with other surveys extremely difficult. In addition, the variation in the conditions under which studies are implemented (sampling, response rates, quality control) also has an impact on comparability. If comparability is a goal, countries planning national studies should be encouraged to join existing programmes or undertaking linking equating studies with existing international programmes.

At the moment, PIAAC and STEP are the only two international comparative studies that collect information on literacy and numeracy. This situation is not likely to change in the foreseeable future. A new cycle of PIAAC is about to begin with data collection scheduled for 2021-22. It is possible that there may be additional rounds of PIAAC should additional countries wish to participate. In particular, a round of PIAAC for middle income countries may be possible with data collection in the period 2025-27 if there is sufficient interest from countries and donor organisations. At this point the STEP measurement study continues to be open to additional countries, however, it is not based on representative sample but it focuses on urban population. The cost and complexity of PIAAC and STEP makes it unlikely that more than a small number of low and middle income countries will participate in these programmes.

Unlike the indicator 4.1.1., there is a low coverage on the indicator 4.6.1 that is globally comparable and methodologically rigorous. In this context, the extent of variation in the literacy and numeracy proficiency of the adult population in different countries represents a significant challenge for the establishment of benchmark levels that will make sense globally. The challenge is to set a benchmark that is far too high to be achieved by a large number of countries or alternatively one that is far too low to have any meaning for many countries.

Ensuing from this context, the following is the proposal for measuring 4.6.1 in the short and long run.

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4.6 measurement strategy and action plan proposal (UIL)

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Proposal for measurement strategy 4.6.1

This proposal identifies steps for conceptual, methodological and reporting frameworks.

It is proposed to adopt UNESCO's (2017) definition of literacy, which is generally and globally accepted. This definition includes reading and numeracy. As earlier stated, there are a few examples of national assessment that includes writing, however, the international comparative assessments do not measure writing.

Moreover, it is also proposed to reach consensus on the methodological comparability especially when the literacy continuum is taken into consideration in the interim and long term reporting contexts.

In the immediate context, there are strong reasons to consider to start with the conceptual frameworks of the PIAAC as the basis for the development of a measurement framework for SDG target 4.6. The reason is that the PIAAC frameworks represent well developed frameworks that have been validated in cross-national settings, including in lower middle and middle income countries. There is however a need to extend the current PIAAC assessment framework to include the lower end of literacy continuum.

To bring the lower end of the continuum into the measurement framework for the indicator 4.6.1, it is necessary to examine whether the existing PIAAC can fit for non-OECD countries. The validity and relevance of the existing cross-national adult literacy and numeracy conceptual frameworks should be critically investigated to measure indicator 4.6.1 and the mapping of other national assessment tools would be necessary for a roadmap to extend the PIAAC assessment framework.

In the long term perspective, there is a need to develop a global common framework for reference that defines the constructs to be evaluated across all contexts. This can be achieved by mapping of assessment frameworks of existing surveys as well as linking these to national core competencies for adults and national qualification frameworks. The proposed framework for reference should be extensively consulted with regional and national stakeholders and experts before it is agreed to become as a global framework for reference.

This does not diminish the possibilities for measuring different domains, sub-domains and constructs that are deemed to be purposeful and relevant for different national contexts. This also includes the possibility of assessing writing skills in their national and other local languages.

Moreover, a global catalogue of learning assessment for adult literacy should be created and proposed to Member States. UIS could further extend their current Global Catalogue for Learning Assessment, including list of assessments for 4.6.1 to collect more information on the assessments in adult literacy and numeracy. Member States should be encouraged to submit their information in this regard.

There is a range of literacy assessment tools, including those that cover the lower end of literacy continuum. The proposal is that the countries using PIAAC assessment frameworks should be further encouraged to conduct their literacy surveys and report on indicator 4.6.1. A mapping of the existing assessment tools should be done to examine the feasibility to use these datasets to report on

indicator 4.6.1. A set of criteria for data and measures should be determined and agreed upon. In this regard, the criteria for data should include the following components:

- It defines literacy as a continuum, not as a dichotomy i.e. literate and illiterate
- It assesses a full range of literacy proficiency levels
- It uses statistical models to confirm psychometric stability
- It uses statistical methods to support comparability

There are countries that do not collect literacy data at all. In this context, there is a need for proposing to develop and pilot a short literacy assessment that is linked to the proposed global assessment framework, methodologically rigorous and operationally pragmatic. The above criteria for data and measures could be strictly followed by this new assessment survey.

As a pragmatic step for interim reporting, methodologies of linking need to use of existing databases and collection of new data with existing or new instruments. For this, bottom-up approach is essential to use national data as well as utilize national benchmarks. Also, methodological solutions would be worked out with governments for relevant alignment between national and international reference frameworks. Practical steps are recommended for advancing the development of the measurement for the indicator 4.6.1:

- Define common domains and subdomains, continuum of skills
- Define number of skills levels
- Determine labels and write policy descriptors for the levels
- Develop full descriptions for the skills levels of the UIS reporting continuum. Choose a global or regional reference level of functional literacy and numeracy.

UIS reporting scale should be established and consultations should be carried out for Member States.

The following table summarizes the proposal for conceptual, methodological, and reporting frameworks to develop indicator 4.6.1 within from 2018 to 2020.

Conceptual framework

Activities	Expected outputs	Tentative timeline
Mapping the existing assessment frameworks for adult literacy and numeracy skills (national/cross-national levels)	Definition of adult literacy and numeracy to be measured Main constructed measured Harmonized assessment framework agreed	2017-2018

Methodological framework

Activities	Expected outputs	Tentative timeline
Mapping the existing assessment characteristics and use of assessment data	Catalogue of learning assessment for adult literacy and numeracy prepared	2017-2018
Mapping the existing content frameworks for Target 4.6	Basic content reference framework of adult literacy and numeracy prepared A paper and database to identify the commonality and difference of assessment domains for literacy and numeracy prepared	2018

Reporting framework

Activities	Expected outputs	Tentative timeline
Compiling good practices in adult literacy learning assessment	Good Practices for Learning Assessment manual prepared	2018
Alignment	Technical paper on the process to link between UIS reporting scale and the basic reference framework prepared	2018
Defining fixed level of proficiency for Target 4.6.1	Technical paper on the benchmarking process in defining fixed level of proficiency prepared	2019
Developing UIS reporting scale	Methodological paper on the reporting of fixed level of proficiency in Target 4.6.1 prepared	2020

References

OECD (2009) PIAAC Literacy: A Conceptual Framework, OECD Education Working

Papers, No. 34, OECD Publishing, Paris
http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2009)14&doclanguage=en

OECD (2016), Survey of Adult Skills (PIAAC)

https://www.oecd.org/skills/piaac/The_Survey%20_of_Adult_Skills_Reader%27s_companion_Second_Edition.pdf

UNESCO (2017a). Reading the Past, Writing the Future: Fifty Years of Promoting Literacy.

Paris: UNESCO. http://unesdoc.unesco.org/images/0024/002475/247563e.pdf

UNESCO Institute for Statistics (2017b). UIS Literacy Assessment and Monitoring.

Programme (LAMP) http://uis.unesco.org/sites/default/files/documents/literacy-assessment-and-monitoring-programme-lamp-information-brochure-en.pdf