

PROPOSAL FOR THE REPLACEMENT OF 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

4 July 2024

Summary

Indicator 4.6.1 has a coverage below 15% and there is no foreseeable increase. For this reason, the UIS proposes to replace the current global indicator for 4.6.1 with SDG 4 thematic indicator 4.6.2 on youth and adult literacy rates. As a thematic indicator, 4.6.2 substantially higher data availability, and an established data collection process.

Indicator 4.6.2 is calculated from census and sample survey data. When multiple sources are available, they may provide conflicting information due to the possible presence of sampling and non-sampling errors in survey data, as well as different definitions and age groups covered by each source. Based on a decision of the Education Data and Statistics Conference in February 2024, the methodology will be developed further to model literacy rate estimates, building on lessons from similar approach used to estimation out-of-school and completion rates. The model would ensure that the above challenges will be addressed to provide up-to-date and more robust data series for regional and global aggregates.

Current Indicator 4.6.1 that assess functional literacy and numeracy for youth and adults could take part of the SDG4 thematic framework.



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1. Introduction

SDG Target 4.6 calls by 2030, to ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

The target is monitored through SDG Indicator 4.6.1, which measures the 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. The choice of this indicator reflected the consensus among education policy makers and researchers of the need to measure literacy and numeracy skills along a continuum, and to better capture the skills required to participate in lifelong learning, economic activity, and wider society.

The thematic framework includes SDG Indicator 4.6.2 – youth/adult literacy rate and defines [literacy](#) as *“the ability to read and write, with understanding, a short, simple sentence about one’s everyday life. This definition emphasizes basic literacy, focusing on two core skills: reading and writing. The concept of literacy has since evolved to embrace several skill domains, each conceived on a scale of different mastery levels and serving different purposes”*.

2. Global Indicator 4.6.1

Monitoring of functional literacy and numeracy takes place through the administration of skills’ assessment surveys of the adult population (e.g., PIAAC¹, STEP²) and national adult literacy surveys. Furthermore, to promote the monitoring of indicator 4.6.1 in low- and lower middle-income countries, the UIS developed the Mini LAMP assessment, a streamlined and comparatively cost-efficient version of the UIS Literacy Assessment and Monitoring Programme (LAMP).

However, data coverage 4.6.1 remains limited. As of 2023, only fifteen countries have data available from 2015 onwards. The large majority of observations come from the first round of PIAAC assessments, which are implemented on a ten-year cycle. Data paucity reflects the relatively high financial and technical requirements for administering a national learning assessment, combined with limited national and international education budgets for adult education. As such, administration of assessments needed to monitor the indicator is concentrated in upper middle and high income countries. Due to these constraints, and the fast approaching target year of 2030, it is unlikely that data coverage can be significantly improved in the short term. Although data from the second cycle of PIAAC is scheduled to be published in 2024, this will be restricted to OECD members.

PIAAC 1st Cycle	PIAAC 2nd Cycle
Round 1 (2011-2012) Australia, Austria, Belgium (Flanders), Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway,	Round 1 (2022-2023) Austria, Belgium (Flanders), Canada, Chile, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia,

¹ PIAAC: OECD Program for the International Assessment of Adult Competencies.

² STEP: World Bank’s Skills Towards Employment and Productivity

<p>Poland, Russian Federation, Slovak Republic, Spain, Sweden, United Kingdom (England and Northern Ireland), United States</p> <p>Round 2 (2014-2015)</p> <p>Chile, Greece, Indonesia, Israel, Lithuania, New Zealand, Singapore, Slovenia, Türkiye</p> <p>Round 3 (2017)</p> <p>Ecuador, Hungary, Kazakhstan, Mexico, Peru, United States</p>	<p>Lithuania, Netherlands, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom (England), United States.</p> <p>A new round of data collection during the Second Cycle is planned to be implemented in 2024-2029</p>
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3. Thematic Indicator 4.6.2

Data coverage

The UIS publishes data on youth and adult literacy rates for 143 countries from 2015 onwards. Except for North America and Europe, and Oceania, country coverage by region exceeds 50%.

Data sources

The data sources for indicator 4.6.2 are:

- *Population and housing censuses* are a key source of literacy data for many countries. These data are usually collected with other household characteristics, such as educational, demographic, and socio-economic status. Population censuses are generally implemented every ten years and resulting literacy indicators are accordingly frequent for most countries.
- *National sample surveys*, either household or individual, that include a module on literacy are a second source of literacy data that is comparatively frequent. These surveys, usually multi-topic, depend on national policy and specific data needs. The frequency of administration can vary considerably depending on the type of survey. For example, Labour Force Survey is conducted quarterly in the European Union (EU LFS). In low or lower-middle income countries, LFS are administered less frequently³. So typically, national sample surveys provide timely data on literacy, but they may not always include a systematic strategy for future repeats.
- *International sample surveys*, either household or individual, that include a module on literacy are a third source of literacy data. These surveys, which include the Multiple Indicator Cluster Surveys (MICS) and the Demographic and Health Surveys (DHS), are designed to meet commonly agreed upon international data needs, while at the same time providing data for national policy purposes. These surveys may be conducted on a regular basis in selected countries globally. Modules from international surveys are sometimes added to other on-going national sample surveys.

When multiple sources are available, they may provide conflicting information due to the possible presence of sampling and non-sampling errors in survey data, as well as different definitions used and age groups covered by each source. Based on a decision of the Education Data and Statistics

³ See [ILOSTAT explorer](#).

Conference in February 2024, the methodology will be developed further to model literacy rate estimates, building on lessons from similar approach used to estimation out-of-school and completion rates. The model would ensure that the above challenges will be addressed to provide up-to-date and more robust data series for regional and global aggregates.

Data collection/production methods

Literacy data used for monitoring SDG 4.6.2 is produced from a variety of data collection methods: a) UIS Literacy Survey; b) estimates produced by the UIS from survey microdata; c) estimates produced by partners (GEM Report team and ECLAC) from survey microdata; and d) modelled data produced by the UIS (GALP Model).

UIS Literacy Survey

The UIS Literacy and Educational Attainment (LITEA) survey is the primary mechanism through which the UIS maintains its database on international literacy and educational attainment statistics. The survey was administered annually to all Member States before 2017 and bi-annually from 2017 onward. Starting from 2021, the LITEA survey has been administered to a total of 132 countries and territories. This excludes countries in the Latin American and Caribbean region, and certain countries from the Europe and North American region, for which the UIS and partners estimate indicators from available microdata.

The UIS literacy questionnaire collects data on counts of the population by literacy status (total, literate, illiterate, and not specified) for the population aged 15 years and older, by location (national, urban, and rural), age group (five-year age groups 15-19, 20-24, ..., 80-84, 85+, and age unknown), and sex (total, males, and females).

The questionnaire also collects a set of metadata questions necessary for UIS and data users to better understand and interpret the literacy data supplied by member states. The metadata collected includes:

- a. The reference year or period of the data.
- b. The source of the data (e.g. census or survey).
- c. An indication of any coverage issues that would help interpret the results (e.g. exclusion of a sub-population or specific geographic regions. In such cases, the data will be footnoted accordingly).
- d. Information about the respondent to questions on literacy in the census or survey.
- e. Information on the measures used to assess literacy, including questionnaire test.
- f. Information on the availability of published data.

For more details about UIS Literacy Survey, see the “UIS Guidelines and Methodology for the Collection, Processing, and Dissemination of International Literacy Data”, Version 5 (December 2023)

Estimates produced from survey microdata

The UIS and its partners (GEM Report team and ECLAC) calculates estimates for indicator 4.6.1 from (population and sample) survey microdata.

UIS modelled data (GALP)

When recent observed data are not available for a given country, estimates from UIS Global Age-specific Literacy Projections (GALP) projection model can be produced. Indeed, using the latest observed data as a base, GALP calculates literacy rates by gender and age group. Future literacy rates are estimated according

to:

- i) the projected literacy rates of new cohorts entering the adult population; and
- ii) projected changes in the composition of the population using future population estimates.

Under the GALP model, literacy rates for those aged 15 years and above are taken to be fixed. Future literacy rates of new cohorts are then projected by regressing the logit of literacy rates on age, for cohorts aged 15-30, by gender. The regression line is fitted according to:

$$\text{Logit}(y) = ax + b$$

Where y is the proportion of literates (by sex), and x the age (or year in which corresponding cohort was aged 15).

The literacy rates for aggregate age groups are then calculated as a weighted average based on the estimated size of the cohort, using projected population from the United Nations World Population Prospects.

For countries with relatively low literacy rates (less than 90% for the age group for the indicator), GALP country estimates are only disseminated where base data are collected within ten years of the year of the estimate.

4. Proposal

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