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Reporting options for indicator 4.6.1

Working Paper for GAML 5 Endorsement

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Background

Target 4.6 calls on countries to “ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy” by 2030. More specifically, indicator 4.6.1 refers to 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 Sustainable Development Goals in Education (SDG 4) indicator 4.6.1 stipulates the need to monitor adequacy of adult literacy and numeracy skills at the international level. Comparative data on literacy and numeracy are needed for multilateral and bilateral donors to guide their policies and programmes and to monitor progress towards international and national targets. It is also vital for countries to use the data to better understand their national situation. Measures of literacy and numeracy are therefore needed to be comparative over time to determine relative needs and to track progress

Options to report on indicator 4.6.1

There might be various alternatives to report on indicator 4.6.1. **Figure 1** presents alternatives for reporting under three broad categories: 1. Indirect and simple direct assessment; 2. direct measures through assessment survey; and 3. model-based estimation for filling data gaps.

The UIS is considering using a mix of approaches, with footnotes, to report on indicator 4.6.1, depending on the availability of skills data in a country. At the same time, for countries who do not have data, UIS is proposing to use model-based estimation to fill data gaps. The UIS would therefore like to get endorsement from the GAML plenary on the way forward.

1. Indirect and simple direct measures

A self-reported question is an indirect measure of reading. It collects a dichotomous response on literacy, by simply asking a person, ‘can you read or write’. It may be administered as part of a country’s household survey. However, this type of data collection faces challenges. For instance, if the construct of literacy is defined as “who can, with understanding, both read and write a short simple statement on his or her everyday life”, then asking a person if they can read or write could be interpreted differently across individuals, cultures and countries, making this measure non-comparable. Further, the results of such self-report questions may over-estimate the literacy rate.

The definition of literacy quoted above has long underpinned the UIS’s literacy rate estimates. UIS produces estimates of the literacy rates in most developing countries. These estimates, in practice, only distinguish between those who cannot read or write at all and the rest of the population. However, those judged to be literate can have vastly different skill levels. Someone who can read and understand a simple statement about everyday life is arguably not sufficiently equipped to cope with the demands of modern-day living. Policy interventions are not only needed for those who are illiterate but also for those with weak literacy skills. In order to address the needs of people with low literacy skills, it is necessary to adopt a more nuanced definition of literacy, which identifies a range of literacy skills and levels of competence.

Simple direct assessment modules could be useful in household surveys like the Demographic and Health Survey (DHS) and the Multiple Indicator Cluster Surveys (MICS). In these surveys, developing

countries try to address literacy assessments by adding a simple set of background questions on literacy skills used and by administering a short test of reading skills within the survey. In DHS and MICS, a sample of adult respondents, typically between 15 and 49 years old, is asked to read a card with a short, simple sentence in their language. The result is recorded as one of three options: (i) cannot read at all; (ii) able to read only parts of the sentence; or (iii) able to read the whole sentence. The results of these tests are available in nearly all DHS and MICS surveys carried out in the last decade, including a large number of surveys in less-developed countries. These test results are more reliable than self-reported data on literacy and give at least some sense of the level of reading skills. On the other hand, these simple reading tests do not allow the measurement of literacy on a continuum and are therefore only a partial improvement on traditional dichotomous literacy indicators. Furthermore, given that indicator 4.6.1 requires the reporting of proportion of population achieving a **'fixed level of proficiency'** in **'functional literacy'** and **'functional numeracy'** these simple reading tests are therefore insufficient to produce the required data stipulated in the indicator.

2. Direct measures through assessment survey

Another option to report on indicator 4.6.1 involves the use of skills assessment surveys for the adult population, such as the Program for the International Assessment of Adult Competencies (PIAAC) and the Skills Towards Employment and Productivity (STEP) measurement program. PIAAC measures both literacy and numeracy skills, although STEP, which measures literacy, includes questions for self-assessment of skills for numeracy used in daily life. Both surveys use the same assessment framework and a common scale for reporting. However, it is important to note that PIAAC was originally designed to meet the needs of developed countries and can be complex to implement.

The Organization for Economic Co-operation and Development (OECD) is developing another tool, a short version of PIAAC called the Short Literacy Survey (SLS), for use in developing countries. It is a shorter test with less demanding tasks and is less complex to implement. SLS is being constructed as an adaptive test to be administered on a computer or tablet platform. It will have built-in features and programs to reduce interviewers' data collection burden. However, it is developed to collect data only for literacy skills and the data is not sufficient to be used for reporting indicator 4.6.1. As indicator 4.6.1 clearly indicates the need of reporting both literacy and numeracy.

Given the costs and complexity of administering the above-mentioned assessments, some countries may be better served by a shorter version of the Literacy Assessment and Monitoring Programme (LAMP), which was originally developed by the UIS for low- and lower-middle-income countries. In the shorter assessment, named Mini-LAMP, countries would use a streamlined version of the set of tools that have already been field tested in 10 low- and middle-income countries.

3. Model-based estimation for filling data gaps

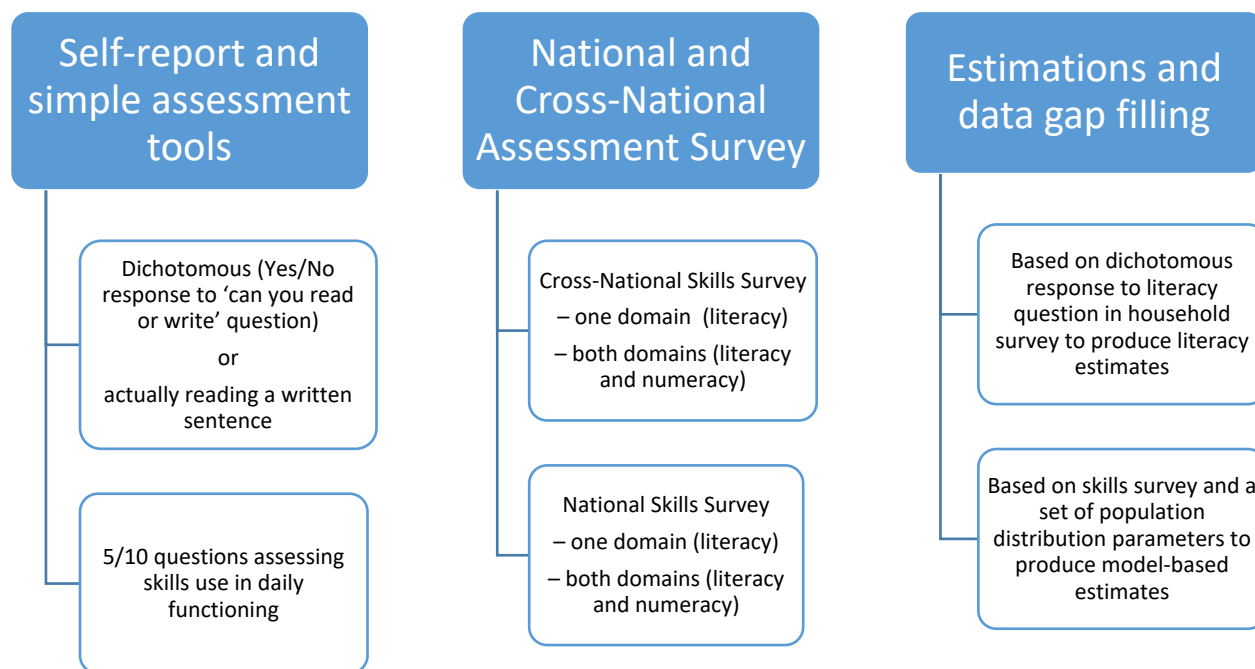
Finally, it is important to consider what could be done if there is no option suitable for a country. That is, if a country is unable to provide any reliable literacy or numeracy assessment data. In such cases, it may be possible for UIS to produce an annual series of statistical model-based (or synthetic) estimates of a nation's literacy skills distribution. The estimate could be based on available information from skills surveys from other countries and various background information related to a country's population. By using skills information and census micro-data, the UIS could be able to project a statistical *estimate* of the literacy skills distribution of country's population.

Before being able to use such a model-based estimation option, three fundamental conditions must be met:

- It is not appropriate to use the proxies mentioned in the first section above, because they are neither comparable nor reliable, and because they fail to reflect differences in the quality of initial education in a country. In addition, these proxies fail to reveal the impact that skill gain and loss has on skill supply over the life course. (The results of studies such as PISA, TIMSS, IALS, ALL, PIAAC and STEP reveal the magnitude of these differences.)
- It is highly unlikely that enough countries will field an assessment of literacy skills, such as PIAAC, LAMP or STEP, to support the global comparisons needed for monitoring progress towards indicator 4.6.1.

Using existing information from PIAAC and STEP from other countries provides a basis for generating more reliable and less biased estimates of the distribution of literacy skill distribution for a country that does not have PIAAC or STEP results available in order to monitor its progress towards the targets set in indicator 4.6.1

Figure 1. A summary of options for reporting



Decisions for plenary endorsement: Reporting Options for indicator 4.6.1

Please provide your feedback by completing the questions that follow. Thank you.

Your name (please print): _____

Name of your organization: _____

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

One of the UIS goals is to report on indicator 4.6.1 using 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”**.

Another UIS goal is to support the use of existing national assessments and cross-national assessments to facilitate measurement and reporting for learning outcomes.

1.	Do you agree with using the following reporting options to measure indicator 4.6.1? <i>Please circle 'Yes' to all three options (a, b, c) if they are all acceptable option. Please rank option a, b, c, in ideal situation.</i>		
a.	Indirect and simple direct measure – self-reporting, simple assessment or self-assessment? Rank: 1 2 3	YES	NO
b.	Direct measurement through cross-national assessment? Rank: 1 2 3	YES	NO
c.	Direct measurement through national assessment? Rank: 1 2 3	YES	NO
d.	Model-based estimation using a statistical model, if no data is available for a country?	YES	NO
2.	PIAAC is the only cross-national assessment that has both literacy and numeracy information to report on indicator 4.6.1. Do you agree that the PIAAC framework is sufficient as Global Competency Framework for indicator 4.6.1?	YES	NO
3.	One of the UIS goals is to support the use of existing assessments. Do you agree for the UIS to support the use of existing national and cross-national assessments for reporting indicator 4.6.1?	YES	NO
4.	PISA covers Reading (Literacy) and Mathematics (Numeracy) for youth (age 15) in slightly over 70 countries (and/or economies) in 2015. Do you agree to use PISA data, complement to PIAAC, to report on indicator 4.6.1?	YES	NO
5.	PIAAC tools were developed for OCED countries. Do you agree that that PIAAC tools can be used to measure levels of literacy and numeracy for all countries?	YES	NO

6.	Do you think it is necessary to develop others tools, such as Mini-LAMP, a streamlined version of LAMP?	YES	NO
7.	Do you agree that good quality data from a national adult literacy assessment, if properly aligned to the PIAAC framework, could be used for reporting indicator 4.6.1?	YES	NO
8.	Do you agree on using model-based estimation to estimate literacy and numeracy skills distribution for indicator 4.6.1?	YES	NO
9.	Do you agree to use a combination of approaches, such as using indirect measures, direct measures and model-based estimation, with footnotes, to report on indicator 4.6.1?	YES	NO

We would appreciate any comments that you wish to make:

Comments: