UNESCO CONFERENCE ON EDUCATION DATA AND STATISTICS

AGENDA FORWARD

FEBRUARY 2024

2024 CONFERENCE ON
EDUCATION DATA
AND **STATISTICS**

I.   SUMMARY

This document summarizes the agenda forward points proposed in the following documents:

- International Standard Classification of Education: challenges and solutions forward ([1 UIS/EDS/3](#))
- Administrative data: challenges and solutions forward ([1 UIS/EDS/4](#))
- Teacher data: challenges and solutions forward ([1 UIS/EDS/5](#))
- Education expenditure data: challenges and solutions forward ([1 UIS/EDS/6](#))
- Learning assessments and skills survey data: challenges and solutions forward ([1 UIS/EDS/7](#))
- Household survey data: challenges and solutions forward ([1 UIS/EDS/8](#))
- National SDG 4 benchmarks: challenges and solutions forward ([1 UIS/EDS/9](#))

II.   INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION

ISCED Committee

To support the governance of ISCED, the ISCED 2011 Manual recommends: 'An ISCED Committee should be formed in order to advise UIS regarding the classification of national programmes and qualifications, to review the current version of ISCED and to identify potential areas for further development, although ISCED revisions are not expected to be within its remit […]'.[1] Consistent with this recommendation, the UIS has established an ISCED Committee, which is working to review the current version of ISCED 2011 and ISCED Fields of Education and Training 2013 after a decade of implementation and identify potential areas for further development of the classifications. The Committee includes education and classification experts from international organizations and UNESCO Member States. It is balanced technically and geographically and reflects different types of education systems that exist globally.[2]

The recommendations of the ISCED Committee are expected by mid-2024. Unresolved broad ISCED 2011 classification issues for consideration by the ISCED Committee include:

● Under which conditions can home schooling be classified in ISCED 2011 as formal education?
● Under which conditions can programmes intended for children aged 3 or 4 be classified as ISCED 01?
● How can academic and professional programmes be defined for ISCED 6-8?

Training and technical support to countries on ISCED

Continued training and technical support to countries on ISCED 2011 and ISCED-F 2013 is considered an important axis by UIS to serve as a solution to problems and improve consistency in the classification of some programmes across countries, specifically:

● Programmes in ISCED 2 and 3 at partial level completion.

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[1] See: https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf, p. 23
[2] See: https://isced.uis.unesco.org/isced-committee/

- Classification of programmes that span two ISCED levels.
- Classification of long first-degree programmes at ISCED 6 and ISCED 7 levels (e.g., Argentina classifying medical programmes of six years as ISCED 766 but Colombia classifying them as ISCED 666. Also, some countries of the former Soviet Union classifying first-degrees of five years' duration as ISCED 766 whereas in other countries these programmes are classified as ISCED 666.
- Second or a further degree for specialization (following successful completion of a bachelor's or equivalent programme): some countries might classify it as ISCED 7.

III.   ADMINISTRATIVE DATA

A national EMIS plays a critical role in monitoring SDG 4. Several policy levers have been suggested to further strengthen reporting of EMIS-based data and indicators at the national, regional and global level.

Addressing quantity constraints

- Expand the use of the UIS dynamic template to more countries. Provide technical support to countries when they need to customize the template to include more data and indicators for their national use without hampering international reporting.

Addressing quality constraints

- Develop a maturity model of EMIS to assess and guide countries to move to advanced systems.

Addressing quality of analysis constraints

- Develop collaboratively standard items and formats with all the variables needed to estimate SDG 4 indicators.

IV. TEACHER DATA

Finalize the revision of the SDG target 4.c indicator framework

Rationale: This topic would address the comparability and relevance of teacher preparedness indicators and low coverage. 4.c indicators have low coverage due to: (i) the lack of the necessary data being collected from schools, (ii) the lack of time, resources and expertise to respond to the UIS questionnaire on teachers, and (iii) the lack of global consensus on definitions of trained and qualified teachers. A second major challenge is that teacher preparedness indicators are defined based on national definitions and mask disparities in the qualification and training of teachers; this also relates to the issue of relevance of the definition for countries including high-income countries.

Guidance: The UIS has been reviewing the indicator framework for 4.c to address these challenges and offers the following guidance. This work would be a critical input into the discussions for this topic.

1. **Revise the indicator framework related to teacher preparedness:** The UIS has been researching and discussing potential changes to the indicator framework including changing the global indicator and including indicators that measure policy characteristics in addition to measuring prevalence of qualifications and training (**Table 1**).

Table 1: Example of changes to teacher qualification and training indicators

Indicator	Definition
Proposed global indicator: proportion of teachers with the minimum required academic qualification **according to a global standard**, by education level taught	A qualified teacher is one who has the minimum ISCED qualification necessary to teach at a specific level of education according to a global reference (new indicator)
Percentage of teachers with the minimum required academic qualification according to national definition, by education level taught	A qualified teacher is one who has the minimum required qualifications necessary to teach at a specific level of education in each country (currently 4.c.3)
Whether a country's in-service teacher training policies have specific features	Policy-level indicator measuring key features of in-service training policies (content of training, timing, etc.)
Percentage of teachers with training in the last 12 months	Currently collected using international student assessment data and teacher surveys (TALIS)

2. **Implement ISCED-T:** The ISCED-T framework captures critical characteristics of teacher training and qualifications and administering the questionnaire would enable the monitoring of crucial disparities in the qualification and training of student teachers around the world. It would also enable the establishment of global standards for teacher training programmes and teacher qualifications.

3. **Agree global definitions for qualified and trained teachers:** While countries have different policy approaches including on teacher education, recruitment and working conditions, which reflect the unique circumstances in each country, understanding the qualifications of teachers in other jurisdictions offers valuable information for countries in developing or revising their own teacher qualification requirements. This is reflected in the spirit of SDG monitoring where, 'Global monitoring should be based, to the greatest possible extent, on comparable and standardized national data' (UNGA, 2015). For example, using the most prevalent minimum requirement has been discussed by the TCG as a potential definition for a global qualification, which could also be applied at a regional level. This could form the basis for a revised global indicator for 4.c.

4. **Revise the indicator framework related to attracting and retaining teachers:** Measuring the indicators that capture attracting and retaining teachers (indicators 4.c.5 and 4.c.6) needs strengthening.

   a. The indicator on teacher salaries relative to similarly qualified individuals has very low coverage primarily due to a lack of country reporting, despite teacher pay scales being relatively well defined in countries. Alternative data sources may not be available for this indicator. Simplifying the questionnaire may help improve reporting by countries, for example, dropping the requirement for specifying salaries for the most prevalent teacher qualification. Other alternatives include using a policy indicator reflecting the competitiveness of teacher salaries or more innovative approaches including web-scraping and AI.

   b. Data on the teacher attrition indicator are likely to be available through querying payroll records or through union data. Tools that offer countries guidance may be needed to help countries monitor this indicator for their own needs and report to the UIS. An alternative is a policy indicator that reflects the attractiveness of the teaching

profession, given that lack of attractiveness is one of the motivations for the attrition indicator in the framework.

Improve data collection through capacity building and innovation

Rationale: This topic would address the low coverage of indicators due to the lack of expertise on data collection by governments, lack of resources to collect the needed data and data quality issues. Low coverage for 4.c indicators relates to the ability and resources of government respondents to provide data and the quality of that data as well as a lack of resources to collect the needed data from schools. For example, data sources generally exist for teacher salaries through established pay scales or on teacher attrition through payroll data, but expertise is needed to understand the definitions used in the UIS survey and to obtain the data from government systems. Moreover, resources may be too scarce to collect the needed data from schools and alternative data sources may be needed.

Guidance: UIS is currently reviewing data collection methods, technical assistance tools to countries and alternative methods for data collection. The following guidance emerges from this work:

1. **Update and review data collection instruments and strategy:** A thorough review and update of data collection instruments and strategies are in motion, aligning with global standards. Embracing innovative techniques such as web scraping and AI might improve not only the accuracy of data but also the timeliness.
2. **Define guidelines for country's data collection:** The formulation of comprehensive guidelines for each country's data collection on the teacher workforce is crucial. These guidelines will establish common definitions and methodologies, promoting consistency in data reporting and analysis.

Link the indicator framework with evidence on teacher training effectiveness

Rationale: This topic would aim to link progress on target 4.c indicators to improved learning outcomes, based on research on effective teacher training. The target 4.c indicator framework effectively provides guidance to countries on how to improve learning, It is essential that

indicators capture the factors that contribute to learning outcomes. For example, ISCED-T measures both the qualifications required for entering a teacher training programme as well as the duration of the practicum component. On this basis, what should countries invest in? Should they increase the qualification required to enter a teacher training programme or the duration of the practicum? If ISCED 5 is set as a global standard for minimum teaching qualification, does this mean that countries that currently have ISCED 3 should invest resources to increase qualifications to ISCED 5? There is compelling research that well-designed in-service teacher training can improve learning outcomes of children (e.g. early grade reading interventions evaluated by Macdonald et al., 2018; Macdonald & Vu, 2018; Piper, Zuilkowski & Ong'ele, 2016; Kerwin & Thorton, 2015; Piper & Korda, 2011) without changing required teaching qualifications.

Guidance: In order to assist countries to navigate the 4.C indicator framework to improve teaching quality and improve learning outcomes, the following could be considered:

1. **Build and maintain the UIS knowledge base on best practice for teacher education:** An updated document is needed which reviews literature on what characteristics are understood to be effective for pre-service and in-service teacher training based on the evidence. This would ensure that the UIS has a current knowledge base. Review of other tools for assessing teacher training programmes (e.g. the In-Service Teacher Training Survey Instrument, ITTSI) would also help develop the knowledge base.

2. **Extend teaching requirements and ISCED-T data collection to include key characteristics of teacher training:** ISCED-T already includes data collection on the duration of practicum. Both the ISCED-T and the teaching requirements data collection could be extended to collect data on whether teacher training programmes exhibit the characteristics identified in the research as being critical for learning. ISCED-T already collects data on duration of practicum and it may be possible to also collect additional indicators.

V.   EDUCATION EXPENDITURE DATA

Harmonizing FFA and 1.a.2 indicators

There are several different data sources on indicators FFA and 1.a.2 reported by governments, either to the UIS or other entities. The current practice is to use IMF GFS data when available. However, these can conflict with official data reported by education ministries. They can also be different than data reported by other sources, like any single source. Prior to 2017, the IMF data on South Africa were much lower than those from three other sources. Finally, there are many cases when IMF GFS data are not available.

The **objective** is to identify the preferred method for harmonizing FFA and 1.a.2 estimates, given the many official sources**.** Approaches discussed include:

1.   Ranking: This is the current approach which considers the IMF GFS as the preferred source.
2.   Median value: With this approach, the median value for each year is taken which results in a value for each year that is less influenced than the average value each year by any outlier values.
3.   Linear trend: A linear trend is estimated using a linear regression model.
4.   Empirically informed ranking: With this approach, the highest ranked data source is the one that is closest to the linear trend.

Simplify the data collection instruments

The UIS Questionnaire B on Education Expenditure requires reporting some 440 data points. This is extremely time consuming for government respondents. The questionnaire is not only used to produce SDG indicators but also other policy relevant indicators. The number of data points required to collect data just for FFA, 1.a.2, 4.5.4 and 4.5.6 would be less than 100.

The questionnaire asks for expenditure amounts by type of expenditure and by education level. There are 30 different types of expenditure, which include both public and private expenditure on education. Under public expenditure, categories include expenditure on public and private educational institutes, intergovernmental transfers, expenditure by regional and local

governments, subsidies to households, staff compensation, and recurrent and capital expenditure, among others. There are nine levels of education from early childhood development up to tertiary including a category for expenditure that is not distinguishable by level.

Providing the education amounts requested in the questionnaire generally requires the respondent to do research and make a number of calculations. Educational expenditure often occurs not only at more than one level of government (e.g. national, provincial and local) but also by multiple ministries: some have their own vocational colleges, while social ministries provide direct subsidies for education to poor households, among others. There is the issue of what constitutes educational expenditure (e.g. expenditure on goods and services vs financial instruments), how to distinguish various types of expenditure (recurrent vs capital) and how to allocate amounts by level when the data sources on expenditure are aggregated. These definitions and methodologies are presented in Section 5 of the Instruction Manual for the Survey of Formal Education. [3]

The **objective** is to review and identify needed adjustment in the data collection process to increase coverage. Potential elements of a revised approach include the following:

- Simplify or prioritize FFA and SDG indicators in the UIS questionnaire on expenditure: Only the data fields needed for SDG monitoring should be kept or, at least, could form the first part of the questionnaire, to focus the respondents' efforts on answering the specific fields needed.
- Provide clear guidelines to UIS survey respondents on how they can obtain the data needed to fill out the fields: For example, respondents could be guided how to request finance ministries to generate reports or how to read household survey national reports.
- Collect metadata on the source of expenditure information for the SDG indicators, possibly by using a checklist for what expenditure is included, for example, from all ministries, government units and subnational jurisdictions.

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[3] See http://uis.unesco.org/en/methodology.

Private expenditure

Measuring private expenditure on education generally relies on household survey data, including data reported by governments to the UIS and data collected by the UIS or others directly from national reports.

There are a number of challenges with estimating household expenditure on education from household surveys, particularly relating to issues including the structure of the questionnaires and recall time.

The **objective** is to identify tools to improve collecting and reporting household education expenditure. Given the variation in how education expenditure data are collected from households using consumption or other surveys, guidance could be provided to:

- national statistical offices on how to design household survey questionnaires, including on the ideal recall period, whether expenditure should be asked about each child rather than the household, the level of education for data collection, how data should be recorded in national reports of household surveys among other issues.
- ministries of education on how to take household consumption measured in consumption surveys and convert it to an estimate as a percentage of GDP; for example, many surveys use the Classification of Individual Consumption According to Purpose (COICOP) of consumption items, but pre-primary and primary education are sometimes merged together.

VI. LEARNING ASSESSMENTS AND SKILLS SURVEY DATA

Assessment harmonization and reporting handbook

With the progress made in recent years, it is time to compile and regularly update a handbook with all the information on eligibility criteria for reporting This handbook will serve as a technical guidance for learning assessments programs and will feature and update the menu of assessments suitable for reporting. The aspects to be included are:

- Alignment to learning standards and frameworks (assessments must adequately measure the intended curriculum and skills)
- Psychometric properties (evidence of reliability, validity, appropriate difficulty, and discrimination among others)
- Representativeness (samples must reflect target populations.)
- Comparability of administrations (consistent, standardized administration procedures affect comparability)
- Transparency of processes (assessment design, sampling, analysis should be well documented)
- Capacity for linking (enough equivalent items/proficiency levels to enable linking)
- Stakeholder involvement (consultative process throughout design and implementation)
- Feasibility of participation (reasonable costs, schedules, capacity-building and burdens for countries)

Accreditation system

Accordingly, it is also the right time to introduce a clear and transparent accreditation system. Assessment providers, including government organizations, will be able to apply to having assessments vetted for their fitness of purpose to report on SDG indicator 4.1.1. Based on the handbook, a checklist will contain the standards and eligibility criteria with which applicants need to comply.

Increase investment and approach to fund learning data

Data coverage remains uneven, especially for developing countries. More investment to expand learning assessment data globally is critical with a holistic approach that looks at building infrastructure for data production at the national level transferring knowledge and skills but also purchasing power and decision-making.

Promote the standardization of context questionnaires in learning assessments.

Context questionnaires is an important next step to support comparability. Agreement on key definitions and agreement of standard items and format to capturing individual student, teacher, and school characteristics would enable better comparability of equity and drivers of learning dimensions.

Scale up the mini-LAMP approach to adult literacy measurement to increase coverage of SDG indicator 4.6.1

The low coverage of SDG global indicator 4.6.1 means that it will be deleted from the list of global indicators during the 2025 Revision by the Inter-agency and Expert Group on SDG indicators. Yet adult skills will remain on the global education agenda and a cost-effective solution remains a priority. Member States are invited to pilot the mini-LAMP tool, which can be added to existing household surveys.

Innovative Methodologies on indicators with low coverage

SDGs 4.7.4 and 4.7.5 deserve the exploration of approaches mirroring the AMPL approach of 4.1.1 by enabling a module that measures the minimum agreed standards taking advantage of existing assessments, such as the IEA International Civic and Citizenship Study (ICCS).

VII. HOUSEHOLD SURVEY DATA

Household and other surveys and censuses play a crucial role in monitoring SDG 4. While progress has been made in increasing the availability and relevance of surveys for SDG 4 monitoring, there are still challenges related to data quality, comparability and coverage. To maximize the potential of household surveys for informing SDG 4 monitoring, the agenda forward should include the potential solutions listed in the previous section, by which governments and international partners can unlock the full potential of household surveys in monitoring SDG 4, ensuring the availability of high-quality, comparable and relevant data for informed decision-making and sustainable development.

Implementing these potential solutions for addressing challenges related to using household surveys in education indicators requires a comprehensive strategy that involves collaboration, capacity building and standardization. Here is a summary of the strategies to implement these solutions effectively:

- Raise awareness of the opportunities that surveys offer for generating education statistics:
  - Raise awareness among policymakers, researchers and the public about the importance of high-quality survey-based data on education for evidence-based decision-making.
  - Advocate for continued financial and technical support for household surveys in education.
- Establish a standardized set of modular survey instruments covering all major national education programmes, which can be administered individually or as part of an existing survey:
  - Ensure that questions on education programmes are aligned with ISCED.
  - Ensure that survey questions related to education attendance are linked to specific school years, aligned with the reference periods for SDG 4 indicators.
  - Include the respondent's month of birth and interview date, to calculate the precise age at the beginning of the school year.
  - Integrate simple enumerator-assessed literacy tests alongside self-assessed measures.

- Ensure that data on education expenditure, including tuition fees and all relevant expenses, follow global guidelines for better comparability. Link education expenditures to individual students within households for more precise data.
- Develop guidelines for data collection and processing to ensure consistency and comparability of education indicators.
  - Expand literacy assessments to all youth and adults, not just those below a certain level of educational attainment.
  - Develop standardized definitions and measures for socioeconomic factors such as household wealth, migration and disability to enhance comparability across surveys.
- Establish and develop the inventory with the collaboration of Member States, ensuring accessibility while maintaining data security and privacy.

VIII. NATIONAL SDG 4 BENCHMARKS

The challenges show that improved coordination and stronger communication are called for. Some solutions will result from progress made during and after the conference, notably with respect to:

- Clarifications on indicator definitions
- Clarifications on data sources
- Improved data availability on the benchmark indicators
- Improved national sector plan target setting.

Other solutions will require progress in areas directly related to the benchmarking process:

- A sustained **communication** campaign to familiarize ministries of education and the general public with national SDG 4 benchmarks as a new way of monitoring progress in education. This campaign will include improvements to the GEO website, which is the official repository for documenting benchmark values and progress.
- The introduction of a **process** giving countries the opportunity to receive transparent updates on the assessment of their progress and to contest, seek clarifications or propose corrections to this assessment.
- The introduction of a **process**, building on the current structure of the SDG 4 Scorecard, that systematically links assessment of progress to the monitoring of laws and policies that help explain slow or fast movement towards the achievement of national targets.