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Monitoring Education Progress and Data Quality*

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Monitoring Education Progress and Data Quality

1. The changing scope and content of education statistics for international monitoring

The scope and content of cross-nationally comparable education statistics have changed markedly in the last decade, reflecting wider recognition of the central role of education in promoting individual and societal development and the reduction of poverty. International efforts such as the Millennium Development Goals and Education for All have launched large-scale monitoring exercises and increased the use of indicators for tracking progress towards time-bound goals.

One of the key challenges has been in moving from measures of quantity to those of quality. This challenge underlies efforts to go beyond collecting information about education systems and their resources and inputs to individual outcomes and their correlates. The last decade has seen an increase in the number of national, regional and international studies of student learning achievement. In some cases these data are also linked to characteristics of home environments as well as education providers and instructional settings through the wider use of multi-level analytical methods. However, it has still remained a methodological challenge to link school-related resources to individual outputs and outcomes.

Efforts to correlate school participation and completion have also benefited from comparative information which has become more readily available at the level of the individual learners and households. Harmonised measures of educational participation and attainment in household surveys and censuses have been applied in a growing number of less developed countries. Although further efforts to improve education measures and raise survey standards are essential.

The range of policy issues has also expanded rapidly, as there has been greater attention paid to life-long learning and learning provided at the boundaries of the formal education system, including early childhood care and education, technical and vocational skills training and adult learning. While there are examples of good practices in some countries, because of the diversity in approaches and the non-formal nature of provision, both conceptual frameworks and measurement definitions have been slow to reach consensus at the international level.

Greater investment in improving education statistical infrastructure and skills and building a culture of data use at the national level have helped to address obstacles to better monitoring.

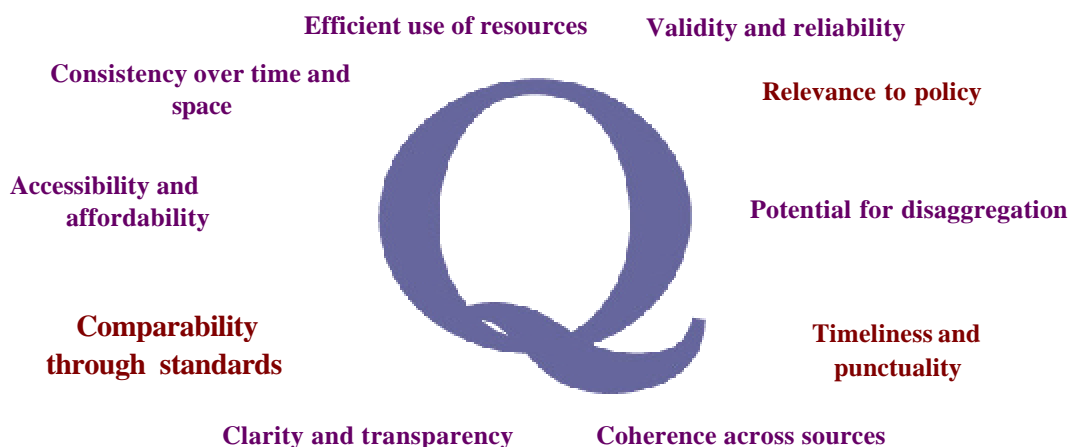
In terms of scope and content, the most data for monitoring reflect the education system or 'macro-level' (see Table 1). Most indicators are derived from administrative data collections, although other sources play an increasingly important role. At lower levels – the school, the classroom, and the individual pupil, cross-nationally comparable data are less complete, though there are efforts to better link across different data collection initiatives.

Table 1. Levels of data collection and use

LEVEL	UNIT OF ANALYSIS	DATA GAPS	UIS DATA COLLECTION
Macro	Education system (especially inputs and resources)	Most common indicators, but coverage problems (age by grade, private expenditure)	Main UIS data collection, regional and sub-national reviews
Meso	Education providers and instructional settings (processes)	Little comparative work, but scope for multi-level analyses of student achievement studies	School/teacher surveys (e.g., WEI SPS)
Micro	Individual learners (learning and adult outcomes)	Increasingly prevalent, but vary in quality	Conducted by other groups (e.g., PISA, PIRLS, TIMSS, SACMEQ, PASEC, LLECE)

With the increasing importance of indicators to monitor progress, greater attention has been paid to data quality and to ensuring that statistical evidence is robust. While often seen as an issue of timeliness or validity, a more comprehensive view of data quality covers a broader range of different dimensions that should be addressed (see Figure 1).

Figure 1. Dimensions of data quality



2. Challenges and opportunities for users and producers of education statistics

The UIS and stakeholders can contribute towards improving the scope and content of international education data monitoring in several ways

a. Ensure transparency of international data

There are often differences between national and international indicators which can create confusion among users. These differences are explained by efforts to ensure comparability - both in the application of the international classification (ISCED) to translate a national system to an international standard and the use of UN Population Division harmonized population estimates that can diverge from national population datasets.

Thus, it is important that stakeholders aim to ensure greater transparency and providing accurate documentation and clear communication of the differences is essential. The UIS is developing tools such as data plans that can help to document data sources, highlight data gaps and propose approaches to accurately translating national into international data. The dissemination of technical guidelines and glossaries also provide ways to communicate differences in definition and methodology, as well as to provide an international standard. Maintaining relevant classification standards, like the International Classification of Education (ISCED), which was last revised in 1997, and which is under review at present. The UNSD has launched the Task Force on population estimates, in which the UIS participates, and is leading towards recommendations to improve both methodology and communication with Member States.

b. Integrate evidence from a wide range of data sources

Efforts to monitor progress, like the Millennium Development Goals and Education for All (EFA) focus attention on a small number of indicators that don't fully capture the many different dimensions of educational progress and may not reflect the full range of potential data sources. The greater number of multi-purpose surveys conducted in less developed countries which include short modules on education, can provide invaluable information about those out of school and the correlates of non-participation (sex, location, socioeconomic status). While the limitations for use in monitoring should be noted - surveys are more ad hoc and not linked to data on the education system - more work is also needed to improve standards for education data collection and use at the national level.

It is essential that stakeholders ensure that a broader view of education indicators, for example in terms of indicators related to school entry, progression, completion and transition. The harmonization of measurement concepts and maintaining standards across different data sources is also important. There is a need to improve the transparency of household survey data. The UIS is working with partners (e.g., Paris21, UNICEF, World Bank and others) to harmonise definitions to support collection and use of survey-based data, including NSO household surveys.

c. Diagnose and follow up infrastructure and technical capacity problems

Weak and ineffective information systems or no reliable national information (especially in fragile states) represent a major problem for monitoring of education progress. At the same time, the demands for improving statistical infrastructure and skills are enormous.

The UIS and a wide range of stakeholders must rely on developing partnerships as well as efficiently and effectively coordinating such efforts. Strategic interventions are needed in the chain of data production, supported by clear and transparent information about the obstacles to better data. The use of a diagnostic approach, for example using the Education Data Quality Framework

(DQAF) developed by the UIS and World Bank and based on an IMF approach to diagnosing the production chain in economic statistics. Donors are needed to fund and raise the importance of statistics. The UIS is applying the DQAF model in a number of countries to help target technical assistance: elaborating data plans to ensure sustainable reporting and development of key measures. The UIS is also strengthening its presence, by posting statistical resource persons at the field-level.

d. Support and promote culture of data use

It is not only a matter of the supply of statistics, but also about their use at the national level. There is often a lack of demand-driven services, little use of statistics, low analytical capacity, and marginal investments in statistics at the national level.

Efforts by stakeholders should focus on stimulating demand and supply for reliable data: This includes the delivery of quality data by national statistical agencies, in applying greater pressure for use of statistics in planning and development of programmes by Donors, taking the development of statistical expertise in the line Ministry into account by Ministries of Education and making the most of leverage provided by the more demand-driven global development agenda (e.g., Millennium Development Goals, Education for All, PRSPs, etc.). The UIS is working with countries to develop and communicate indicators, providing analytical capacity training, tools, guides and increasingly strengthening UIS resources in the field.

e. Improve the relevance of data collections and indicators

As noted already, education indicators used to monitor progress often do not address emerging or existing policy issues at national or regional levels. There is a need to identify key existing and emerging policy issues and seek to develop frameworks and concepts necessary to feed into the monitoring process.

Stakeholders could contribute by improving existing and developing new indicators through inter-Governmental consultations (regional bodies) and technical advice and approbation process. The UIS is involving stake-holders in questionnaire redesign, gradually allowing for context and regionally-specific indicators, providing forums for technical discussions through regular regional education statistics workshops, global and regional EFA Working Groups and technical assistance at the country-level

f. Improve the timeliness of international reporting

One of the key issues raised with international monitoring data is that they do not represent the data for the most recent year available and thus may not reflect recent changes in policy.

Efforts to improve timely collection and reporting are possible across a range of stakeholders. For example, through Donors' pressure for data use in planning, and through the review system of data collection and reporting. The UIS is working towards improving the timeliness of its internal data production, but more importantly, looking towards Member States. The UIS is seeking to align its data collection to national production cycles, to provide incentives for reporting through rolling data release (meaning that countries which report early, also see their data represented in international datasets earlier) and technical assistance to improve efficiency of data systems.

3. Setting a measurement agenda for monitoring education statistics

Central to setting a measurement agenda for monitoring is the development of a broad vision for education statistics that addresses the full scope of data quality, together with national and international stakeholders in a joint, coordinated and systematic manner.

Some of the key issues that remain to be addressed are related to maintaining international standards, especially ISCED and related classifications and their application to household survey data; methodological development, especially in terms of improving new and developing new indicators to address priority policy issues; stronger efforts to support statistical infrastructure and skills, especially in less developed countries, based on systemic diagnosis and technical assistance and seeking innovative ways to turn data into information and to communicate results to policymakers and other stakeholders.