

Statistical Commission  
Fortieth session  
24 - 27 February 2009  
Item 3 (h) of the provisional agenda  
**Education Statistics**

Background document  
Available in English only

## Statistical Frameworks and Co-ordination Mechanisms for Collecting and Reporting of Education Statistics by International Organizations

Prepared by the Education Task Force of the United Nations Statistical  
Commission

Statistical Frameworks and Co-ordination Mechanisms  
for Collecting and Reporting of Education Statistics  
by International Organizations

Education Task Force of the United Nations Statistical Commission

Revised draft  
10 January, 2009

## 1. Introduction

This report summarizes a review undertaken by the Education Task Force to 1) examine conceptual frameworks guiding the collection and reporting of education statistics in international agencies and national offices and assess the need for a world-wide framework guiding the collection of education data; 2) survey existing co-ordination mechanisms among relevant agencies and propose solutions to avoid duplication and to reduce country response burden; 3) identify potential gaps relative to emerging policy demands, as identified by international organizations or national authorities; and 4) to provide recommendations to the Task Force on possible approaches to fill these gaps and to improve international co-ordination. The review integrates the findings from a document review, interviews with members of international organizations, and the surveys responses from participating countries. This document describes the major issues identified in the review, and the recommendations approved by the Task Force.

## 2. Statistical Frameworks

The review examined the degree to which conceptual frameworks are used by international agencies and national offices to guide the collection and reporting of education statistics. The frameworks reviewed include those of international agencies with mandates to coordinate and utilize international statistical information and national agencies with mandates, unique to each country, to utilize and generate national statistics and indicators. These agencies differ in the degree to which their operations are influenced by legislation (U.S., EUROSTAT), macro-statistical agency operations (Russia), historical precedent (France), or goals established to monitor particular educational objectives (UNICEF, EUROSTAT and UIS). The frameworks used by Australia, Brazil, Canada, and the OECD reflect an underlying conceptual model for organizing statistics (e.g., Inputs, Processes, Outputs, and Outcomes), yet decisions about what data to collect in any given data collection can be influenced by the data needs of policymakers.

The Australian *Framework of Education and Training Statistics* is an example of a framework that national authorities find very useful. This framework establishes definitions of learning activities and provides a structured approach to classifying statistics by focusing on 1) an underlying model that identifies various elements (context, participant, non-participants, providers, resources, activities, and outputs and outcomes), 2) a multi-level structure (individual, organization, system), and 3) both activity and industry perspectives. The Australian Bureau of Statistics (ABS) reports that this framework has been a useful tool to identify gaps and overlaps, to determine statistical priorities for development, and to assess comparability across data collections. Members of the ETF agreed that it a useful guide for countries wishing to develop their own national approach.

The Review found variation across countries in the formalization of frameworks for collecting education data, the extent to which the frameworks focus on concepts versus indicators or specific measures, and the different uses of the data collected, e.g., management, benchmarking, analysis, or evaluation. From an international perspective it is important to distinguish between a conceptual or policy framework, which represents a model for how educational constructs fit together (e.g., the OECD's matrix of outcomes, policy levers and antecedents by system, schools, classrooms, learners) and a statistical framework (e.g., the International Standard Classification of Education Programmes (ISCED)) which turns the concepts into measures and actual data and indicators. The agencies interviewed felt it critical that there be a shared statistical framework across organizations, as definitions and classification schemes need to be compatible across international and national data collections. There was less consensus among the ETF members around the need for a common conceptual framework, as each organization has its own constituencies (e.g., member states, stakeholders) and different policy goals.

---

<sup>1</sup>Prepared by Thomas M. Smith and Stephen Heyneman of Vanderbilt University, consultants to the Task Force. The Education Task force was represented by: Australia, Brazil, Canada, Cuba, France, Russian Federation, Sri Lanka, EUROSTAT, UIS, and the United Nations Statistical Division.

### 3. Co-ordination Mechanisms

The Review examined existing co-ordination mechanisms among international organizations in collecting, processing and reporting education data and identified areas where further collaboration could help to avoid duplication and reduce country response burden.

UIS, OECD, and EUROSTAT collaborate extensively on the UOE data collection, which covers participation, completion, costs, and resources of education. Participating countries submit data to one unique address that all agencies are able to access. This reduces burden on countries and ensures that the international organizations are working with the same “version” of submitted data. While controls are in place to ensure that the participating agencies are notified if a country changes or updates submitted data, there is a need for better maintenance of metadata indicating when and why changes to data were made.

As agencies are on different publication timelines, edits to UOE data during the review process of one organization can end up contradicting data that other organizations have already published. Further, different publication schedules can lead to the reporting of different measures when data from outside the UOE data collection (e.g., financial data from the IMF) are updated. Better tracking and documenting of these changes would help both agencies and countries understand differences in reported indicators.

All of the organizations interviewed and countries surveyed noted the continued challenges of applying ISCED to the classification of education programs and related data (enrollments, completions, staffing, and finance), as well as how to classify and report educational attainment data. To address some of these issues, UIS has begun a review of ISCED-97, in collaboration with OECD and EUROSTAT, to examine current definitions and classification criteria and determine if revisions or new conceptual definitions are necessary. UIS is in the process of forming a global ISCED Technical Advisory Panel to guide the review strategy, take part in regional consultations, assist in targeting research, and to provide inputs into the preparation of the recommendations.

OECD, EUROSTAT, and UIS also coordinate, to a lesser extent, their sample survey and assessment work. For example, the European Commission is contributing funding (directly to countries) and attending advisory meeting for both the OECD Teaching and Learning International Survey (TALIS) and the Program for the International Assessment for Adult Competencies (PIAAC). The UIS has supported non-OECD countries in analyzing PISA data and jointly published an analysis of PISA results with OECD.

OECD and IEA compete for country’s participation and funding in student assessment. The two kinds of studies differ in their purposes, conceptual frameworks, and sampling plans, with IEA focusing on content taught to students in particular grades and OECD focusing on broader literacy and life skills among an age cohort near the end of secondary schooling. There were consultations between OECD and IEA as to why countries differed in performance rankings on PISA and TIMSS. Despite these differences, a number of countries remain concerned about the costs and data collection burden associated with participating in both studies.

UIS and UNSD exchange census literacy data bi-annually, in order to improve coverage on both sides. Literacy census data received from UNSD are checked and “processed” by UIS who then advises UNSD of any errors or inconsistencies – and vice versa. UIS sends its final data tables each year to UNSD and UNPD for validity checking across agencies. Definitions and classifications for education statistics in UNSD’s *Principal Recommendations* are based on definitions provided by UIS. National accommodations to these recommendations are collected as metadata. There could be a role for UIS in providing technical assistance and verification of reporting practices. For reporting of enrollment and attainment data from the census, NSOs are left to map their national programs to ISCED on their own. The mapping is neither controlled nor monitored. There is no critical review of this practice, which could lead to comparability problems.

Problems of co-ordination and comparability of data have generally been greater among organizations working with less developed countries, where the UIS and others (e.g., World Bank, UNICEF, and individual donor agencies) maintain separate data collections. One example is the use by UNICEF of school attendance measures based on household survey data that produce different results than administrative data and national estimates. The UIS, jointly with UNICEF, published a report on out of school children, using a combination of administrative data and household survey data, and has sought to establish a methodology which could combine these data sources, although this has proven to be a particularly complex issue that has yet to be resolved.

One of the main country concerns in the reporting of education indicators published by international organizations involves the use of population projections from UNPD instead of country-level estimates, which can lead to differences in population-based indicators such as enrolment rates. There is a UNSD Task Force that is currently looking into strengthening the population estimates of UNPD. The UIS is contributing a technical paper that looks at issues related to education data. The Task Force last reported to the CCSA in September 2008.

#### **4. Data collection burden on countries**

Costs for adhering to international requirements was the greatest concern in the Survey of Task Force Members and selected countries. Examples given, however, mainly concerned costs related to participation in the OECD INES project and the country level costs to make estimations or special manipulation because national data do not clearly align with international definitions. Although several lower income countries report having to provide similar data to multiple international organizations in a given year, issues of overlapping responsibility and burden are difficult to quantify because currently available data from one organization may not meet the specific data needs of another organization. While publishing data on accessible websites has helped to alleviate some of the need to collect duplicate data, better coordination across organizations regarding planned and ad hoc data collections could help to reduce country burden.

#### **5. Recommendations**

The review makes recommendations based on the framework mapping exercise and analysis of the interview and survey responses, while taking into account feasibility, relative importance for reducing country reporting burdens and improved data comparability.

##### *a. Statistical frameworks*

There has been a significant improvement in the quality and coverage of educational statistics in the last decade. Much of this improvement is a result of collaboration among international organizations and national representatives and experts on definitions (e.g., expenditure on education from public sources), concepts (importance of measuring enrolment by single year of age), methodologies (e.g., mapping programs to ISCED) and 'integrated' data collection across agencies (e.g., UOE, collaboration around assessments). These efforts to build a cross-national statistical framework are essential for the comparability of education data collected from different countries and reported by different agencies. While there are areas where increased collaboration and co-ordination are needed, ISCED and existing UOE and UIS definitions and classification schemes are the foundations for comparability and should be regularly revisited and renewed.

There is less need for a uniform, cross-national conceptual framework that would dictate areas of data development. Currently, international organizations work with a variety of conceptual frameworks -- ranging from goals that need to be monitored to models attempting to explain relationships between inputs and outcomes -- that meet the different policy needs of the organizations, their Member States and stakeholders. It is critical, however, that when a single organization begins work translating elements of their conceptual framework (e.g., life-long learning) into their statistical framework (how to measure life-long learning) international organizations need to collaborate so that the resulting definitions, concepts, and methodologies meet the needs of various stakeholders and lead to compatibility of measures across agencies.

While the Review recognizes the value of conceptual frameworks at both the national and international level for improving education statistics (e.g., identifying gaps, anticipating emerging issues), a single conceptual framework that applies to all organizations is not recommended.

*b. Co-ordination between international agencies*

Collaboration and coordination between international organizations in data collection, processing and reporting, particularly EUROSTAT, OECD, and UIS, is stronger now than ever. Nevertheless, there are instances where international agencies (i) request similar data in uncoordinated requests (ii) lack coordination in data collection schedules; (iii) use terms with different definitions; and (iv) are handicapped by differing internal regulations pertaining to validation and the mechanisms of data use. This requires a rethinking in order to meet future challenges. The Review makes specific recommendations on issues of data sharing, timing and sequencing of publications, the dissemination and access to data, as well as a recommendation to constitute a Task Force on ISCED and an Interagency Panel on Education Statistics.

We recommend that UIS creates a ISCED Task Force for reaching consensus on developing methodology, updating definitions, providing country support (e.g., organizing peer reviews), and developing procedures for mapping to educational attainment data to ISCED (e.g., data gathered through population censuses, labor force or adult education surveys). There is already considerable collaboration between OECD, EUROSTAT, and UIS on ISCED, but it would be useful to formalize these relationships and bring on board other international organizations (e.g., UNSD, UNICEF) that collect data on educational participation and attainment. As ISCED is the key statistical framework for translating national data into internationally comparable categories, sustained focus on improving its applicability and implementation is warranted.

We also recommend the creation of an Inter-agency coordinating group on education statistics. Led by the UIS, this group would work to maintain and promote development of international standards, push to reduce duplicative efforts across international agencies, set global strategies for data development, promote participation of non-OECD countries in international data collection efforts, raise the profile of education statistics, develop collaborative strategies for improving the quality of education statistics in non-OECD countries through capacity building activities, ensure efficient data exchange among agencies, and support allocation of resources to statistics at the institutional level. While a number of agencies already cooperate informally across a range of these functions, it would be useful to formalize this collaborative structure and expand its membership.

One task of this Inter-agency group could be to improve cooperation among agencies/countries for reducing reporting burdens (e.g., from ad hoc requests when data are available in another organization) and reducing inconsistencies by setting standards for uniform application of statistical frameworks (e.g., to harmonize data collection methodology between household survey and administrative data collection).

Another important task of this Inter-agency group would be to better coordinate fundraising and implementation of statistical capacity building as it relates to education. Current efforts by national and international agencies to improve statistical systems in developing countries are often uncoordinated, leading to inconsistent and inefficient initiatives. Formal collaboration among organizations to coordinate funding for activities at the country or regional level could help improve the targeting of resources.

While it is beyond the scope of this review to recommend particular agencies to this group or set a more specific agenda for collaboration, a formally organized body with a procedure for agenda setting and resource allocation could help to improve the quality of education statistics cross-nationally and reduce country burden.

## List of Acronyms

ALL	Adult Literacy and Life Skills Survey
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CCSA	Committee for the Co-ordination of Statistical Activities
CELADE	Latin American and Caribbean Demographic Center
EAG	<i>Education at a Glance</i> (OECD)
ECLAC/CEPAL	The Economic Commission for Latin America & the Caribbean (the Spanish acronym is CEPAL)
EFA	Education for All
ETF	Education Task Force of the UN Statistical Commission
EUROSTAT	Statistical Office of the European Communities
FAO	Food and Agriculture Organization
FTI	Education for All - Fast-Track Initiative
GMR	Global Monitoring Report (EFA)
HDI	Human Development Index (UNDP)
IAEG	Inter-Agency and Expert Group
IALS	International Adult Literacy Survey
IEA	International Assn. for the Evaluation of Educational Achievement
INES	OECD's Indicators of Education Systems Program
ILO	International Labour Office
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
LAMP	Literacy Assessment and Monitoring Programme
LFS	Labor Force Survey
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Surveys (UNICEF)
MoE	Ministry of Education
MTSP	Medium Term Strategic Plan (UNICEF)
NCES	National Center for Education Statistics (United States)
NEAC	National Educational Achievement Categories
NSO	National Statistical Office
OECD	Organisation for Economic Co-operation and Development
Paris 21	Partnership in Statistics for Development in the 21st Century
PIAAC	Programme for the International Assessment of Adult Competencies
PIRLS	Progress in International Reading Literacy Study (IEA)
PISA	Programme for International Student Assessment (OECD)
SDMX	Statistical Data and Metadata Exchange
SPBEA	South Pacific Board for Education Assessment
TALIS	Teaching and Learning International Survey (OECD)
TIMSS	Trends in International Mathematics and Science Study (IEA)
TOR	Terms of Reference
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNSD	United Nations Statistical Division
UOE	UNESCO-OECD-Eurostat Joint Data Collection
USAID	United States Agency for International Development
WEI	World Education Indicators

## Table of Contents

Executive summary.....	ii
List of acronyms.....	vii
Table of contents .....	viii
Introduction and methods of gathering information .....	1
Part I. The need and scope for development of conceptual frameworks ...	3
Part II. Co-ordination mechanisms.....	6
a. Collaboration between UIS, OECD, and EUROSTAT.....	6
b. WEI and UIS data collections for non-OECD countries .....	9
c. Collaboration on ISCED .....	10
d. Other examples of collaboration between OECD, EUROSTAT, and UIS .....	11
e. OECD and IEA.....	12
f. UIS and UNSD.....	12
g. UIS and UNICEF.....	13
h. International organizations and regional organizations .....	14
i. Forums for collaboration on statistics to monitor MDGs.....	15
Part III. Emerging policy needs .....	16
Part IV. Data collection burden on countries .....	19
Part V. Recommendations of the Task Force .....	19
a. Statistical frameworks .....	19
b. Co-ordination between international agencies .....	20
Appendix A: Country survey on cross-national education statistics .....	22
Appendix B: Results of the survey to Task Force members .....	26
Appendix C: Description of international frameworks.....	30
Appendix D: Description of national frameworks .....	33
Appendix E: Mandates for agencies collecting education data .....	37
Appendix F: Education data requested by international organizations:	
Example of Australia.....	40
Example of Brazil.....	41
Example of Canada.....	42



## **Introduction**

Following the thirty-eighth session of the Statistical Commission and the presentation of the Report of Statistics Canada on Education Statistics (E/CN.3/2007/2), it was agreed that a Task Force on Education Statistics consisting of interested countries and agencies would be established. The Institute for Statistics (UIS) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) was asked to act as convener for the Task Force. The Education Task force was represented by: Australia, Brazil, Canada, Cuba, France, the Russian Federation, Sri Lanka, EUROSTAT, UIS, and the United Nations Statistical Division. At the thirty-ninth session of the Statistical Commission, a progress report was presented and the Commission requested the Task Force to report at its next session.

This report summarizes a review undertaken by the Education Task Force to 1) examine conceptual frameworks guiding the collection and reporting of education statistics in international agencies and national offices and assess the need for a world-wide framework guiding the collection of education data; 2) survey existing co-ordination mechanisms among relevant agencies and propose solutions to avoid duplication and to reduce country response burden; 3) identify potential gaps relative to emerging policy demands, as identified by international organizations or national authorities; and 4) provide recommendations on possible approaches to fill these gaps and to improve international co-ordination. The review, commissioned from Professors Thomas Smith and Steven Heyneman from Vanderbilt University in the United States, integrates the findings from a document review, interviews with members of international organizations, and survey responses from participating countries. This document describes the major issues identified in the review and summarizes the recommendations made by the consultants and approved by the Task Force.

## **Methods of Gathering Information**

The TOR asked that the consultants 1) examine conceptual frameworks guiding the collection and reporting of education statistics in international agencies and national offices and 2) review existing co-ordination mechanisms among relevant agencies and propose solutions, if necessary, to avoid duplication and to reduce country response burden. Toward this end the consultants collected and analyzed conceptual frameworks and other related documents that the organizations use to guide the collection of education data. They also interviewed individuals in international organizations regarding their co-ordination of education statistics. Interviews with representatives from OECD were conducted on October 1, 2007 and representatives from the Statistical Office of the European Union (EUROSTAT) on October 2, 2007. Interviews with representatives of the World Bank were conducted in December 3, 2007 and with

representatives of UNICEF, UNDP, and the UN Statistics Division in January 2008. In addition, current and former UIS representatives were interviewed and written questions were submitted regarding additional issues that arose as the report was being developed.

The consultants also drafted a survey for Task Force Members and selected other countries (determined in collaboration with UIS) to gather information on:

- The activities (or involvement) of international agencies in the field of collecting and disseminating comparative education statistics
- The areas where these activities may be co-coordinated well, where they may over-lap, and where there may still be gaps, and
- Any suggestions and/or recommendations which may be useful to consider for improving the current practice of collection and dissemination of cross-national educational statistics.

The survey also requested that respondents provide rubrics or conceptual frameworks used to guide the collection and reporting of education statistics in their country. If a conceptual framework was not used, respondents were asked how they make decisions about the kinds of education data that they collect and report.

A draft of this survey was reviewed by UIS, and the comments and recommendations were used to revise the survey. The revised survey (Appendix A) was sent to Task Force Members in Australia, Brazil, Canada, Cuba, France, the Russian Federation, and South Africa by email on November 25, 2007. On December 20, a letter from the UIS Director was sent by email and fax, along with the survey, to Ministers of Education and Chief Statisticians in selected UNESCO Member Countries to explain the goals of the Task Force and to invite them to participate. Invited countries included Chile, China PR, Costa Rica, India, Indonesia, the Islamic Republic of Iran, Libya (Arab Jamahiriya), Nigeria, Qatar, Uganda, the United Kingdom, and the United States. Reminders were sent to email contacts in December 2007 and January 2008. Responses were received from Australia, Brazil, Canada, Cuba, France, Russia, Sri Lanka, the United Kingdom and the United States. Detailed results of the survey are presented in Appendix B, with key findings included

The review, summarized below, integrates the findings from the document review, interviews with members of international organizations, and the survey responses from participating countries. A draft of the review was presented to the Task Force by Prof. Smith on September 4-5 at a meeting hosted by EUROSTAT in Brussels. Based on input from the Task Force, additional information on data collection burden was sought through a follow-up survey of Task Force members. Representatives from Australia, Brazil, and Canada provided these data. This

Review describes the major issues and concerns identified in the review, starting with Statistical Frameworks (Part I), Co-ordination Mechanisms (Part II), Emerging Policy Needs (Part III), Data Collection Burden on Countries (Part IV), and finally the recommendations made by the consultants that have been approved by the Task Force (Part V).

### ***Part I. Conceptual frameworks for collecting education statistics***

This part of the review examines what currently exists in international agencies and national offices regarding conceptual frameworks that are used to guide the collection and reporting of education statistics. Appendix C contains descriptions of the conceptual frameworks used by different international organizations, developed by summarizing interviews, organizational websites, documents obtained during interviews, as well as follow-up questions to individuals in organizations. Country-specific information on the national frameworks reviewed is included in Appendix D and is based on responses to questions contained in the survey for Task Force Members and selected other countries and documents submitted by responding countries (not all countries provided supporting documentation).

The frameworks reviewed fall into two main categories: international agencies with mandates to coordinate and utilize international statistical information; and national agencies with mandates, unique to each country, to utilize and generate national statistics and indicators. These agencies differ in the degree to which their operations are influenced by legislation (U.S., EUROSTAT), macro-statistical agency operations (Russia, Sri Lanka) historical precedent (France), or goals established to monitor particular educational objectives (UNICEF, EUROSTAT, and UIS). The frameworks used by Australia, Brazil, Canada, and the OECD reflect an underlying conceptual model for organizing statistics (e.g., Inputs, Processes, Outputs, and Outcomes). Across most countries, however, decisions about what data to collect in any given data collection can be influenced by the current data needs of policymakers.

One national framework stands out as an exemplar. The Australian *Framework of Education and Training Statistics* is a concrete example of a framework that national authorities find useful. For example, the Australian framework establishes definitions of learning activities and provides a structured approach to classifying statistics by focusing on 1) an underlying model that identifies various elements (context, participant, non-participants, providers, resources, activities, and outputs and outcomes), 2) a multi-level structure (individual, organizational, systemic), and 3) both activity and industry perspectives. The Australian Bureau of Statistics (ABS) reports that this framework has been a useful tool for providing a common basis for stakeholders to examine and communicate information about their statistical needs, to identify gaps and overlaps and determine statistical priorities for further development. Additionally, it is used to assess data comparability across ABS and non-ABS data collections in terms of

their data items, the use of national standards and the comparability of collection methodologies. Members of the ETF agreed that the Australian framework is a useful guide for countries wishing to develop their own framework.

There is variation across countries in the degree of formalization of frameworks for collecting education data, the extent to which the frameworks focus on concepts (Australia, Canada) versus indicators or specific measures (e.g., Cuba), and the different uses of the data collected, e.g., management, benchmarking, analysis, or evaluation. For example, while some frameworks identify a core set of indicators for monitoring system effectiveness (e.g., data collection frameworks developed to monitor the *Millennium Development Goals* or progress towards *Education for All*), others are guided by a goal to develop “conceptual understanding of variables associated with supporting quality and equity” (United States).

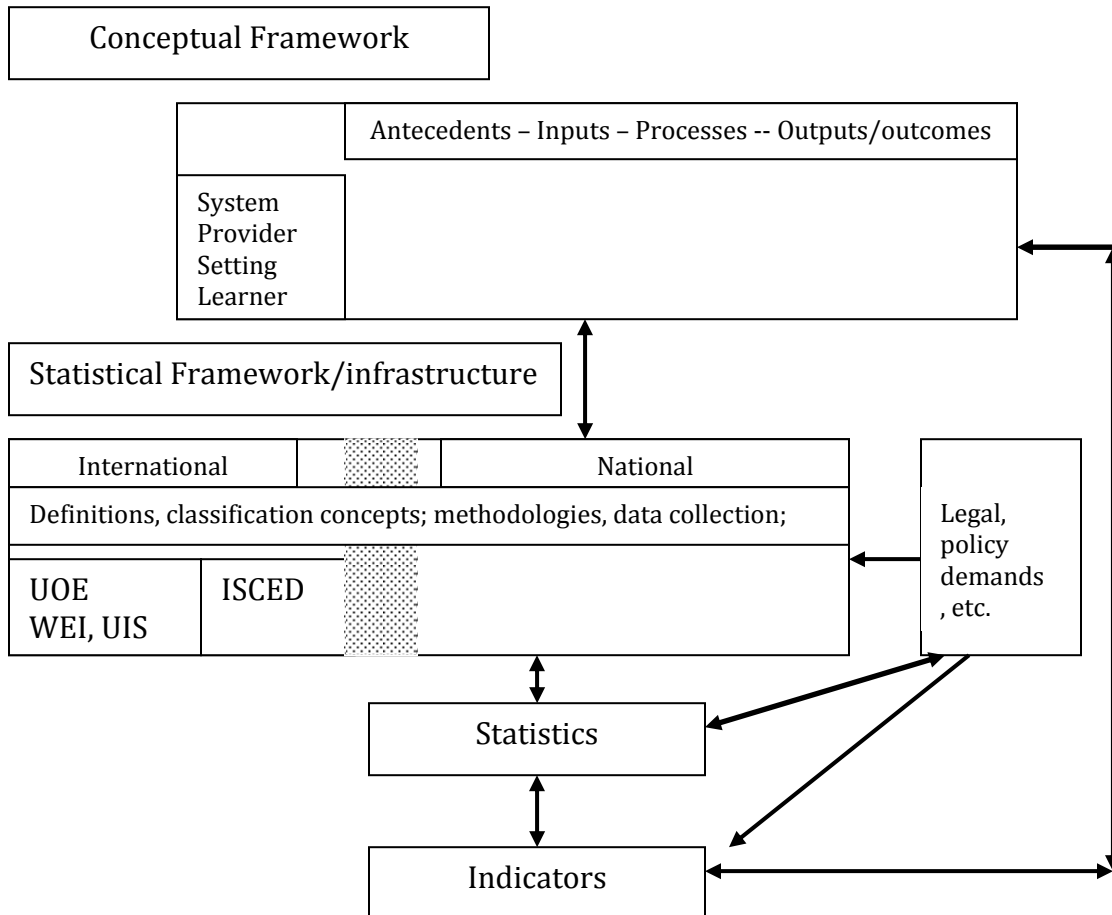
How the priority areas for OECD’s Teaching and Learning International Survey (TALIS) were chosen illustrates the difficulty in having all organizations sharing a common conceptual framework. TALIS has three priority areas (School leadership, Evaluation of teachers, Teacher practices and beliefs), chosen through a priority setting exercise among likely participants that started with a list of 50 potential priority areas. As each international organization has its own constituencies and funders, it is difficult to conceive of a conceptual framework that would address the needs of all international organizations.

From an international perspective it is important to distinguish between a policy framework, which may detail a model for how educational constructs fit together, from a statistical framework (e.g., ISCED or the definitions and reporting instructions in the UOE data collection instruments). Figure 1 portrays how the two of these can fit together. A conceptual framework specifies the theoretical model or list of indicators, goals, or categories that guide data collection. In many cases these conceptual frameworks derive from the mandates that international organizations, national statistical offices or ministries of education have for collecting and reporting education data (for a description of the mandates of different international organizations involved in collecting and reporting education data, see Appendix E). An example of this is the OECD’s Outputs/Outcomes, Policy levers, Antecedents crossed by country/system, schools, classrooms, learner’s matrix.

The conceptual framework influences, and is influenced by, a statistical framework, which details the definitions, classification categories, and methodologies for translating national to international classification categories (e.g., the International Standard for Classification of Education Systems or ISCED). The conceptual framework as well as legal and policy demands drive the collection of statistics and the reporting of indicators. Statistical frameworks are the tools that ensure the consistency of data collected over time and from different sources, as well as the methodologies that translate data collected at

the national level into a form that is roughly comparable across countries. The Data Collection Manual for the UNESCO-UIS/OECD/EUROSTAT data collection on statistics of education can be considered a statistical framework in this light by providing definitions and reporting methodologies that allow for the reporting of internationally comparable data on key aspects of education systems, including the context, participation, and costs and resources of education.

**Figure 1.**



The international organizations interviewed for this review felt it critical that there be a shared statistical framework across organizations, as definitions and classification schemes need to be compatible across international and national data collections. There was less consensus around the need for a common conceptual framework, as each organization has its own constituency (member countries/stakeholders) and different policy goals.

## **Part II. Co-ordination mechanisms**

The second part of the report reviews existing co-ordination mechanisms among relevant agencies and examines areas where further collaboration could help to avoid duplication and to reduce country response burden.

The review began by detailing the respective mandates of international organizations for collection and reporting of education data. The organization-specific mandates for UIS, OECD, EUROSTAT, World Bank, UNICEF, UNDP, and UNSD are detailed in Appendix C. UIS, OECD, and EUROSTAT each have mandates to collect and report education data for their Member States. As noted above, these mandates contribute to the Conceptual Frameworks that each agency uses to drive its data development program.

The mandates of UNICEF, UNDP, and UNSD are more focused with regards to education data. UNICEF is guided by its Education Strategy and its 2006–2009 medium-term strategic plan (MTSP), as well as a number of international agreements, including the Convention on the Rights of the Child, the Millennium Development Goals, Education for All, and the World Fit for Children goals and targets. UNDP is primarily a user of education statistics gathered by UNESCO in order to produce its annual Human Development Report. UNSD is not directly responsible for collecting data on education, although it does collect information on enrolment and educational attainment from national statistical offices based on census data. While the World Bank has no systemic program for collecting education data, it makes extensive use of data collected by UIS and collects its own data within countries to meet monitoring roles.

This section reviews collaboration among these agencies around the collection and reporting of data. Without collaboration and co-ordination, countries would be continually burdened by similar data requests and the indicators and reports derived from similar data would likely produce inconsistent results. As the most extensive data collection activities are conducted by UIS, OECD, and EUROSTAT, their collaboration is reviewed first.

### **Collaboration between UIS, OECD, and EUROSTAT on the UOE**

UIS, OECD, and EUROSTAT collaborate to jointly administer the UOE data collection<sup>2</sup>, which covers access to education, participation, completion, and the costs and resources of education. The UIS manages a related data collection

---

<sup>2</sup> Currently 63 countries participate in the UOE data collection, although not all countries complete all tables. For example, not all countries complete the three sets of EU-specific tables introduced by the EUROSTAT for the collection of regional data on enrolment, data on foreign languages and data on graduations in ISCED5A following the implementation of the Bachelor – Master degree structure according to the Bologna process.

programme – called the World Education Indicators programme.<sup>3</sup> Countries submit UOE data to one unique address that OECD/EUROSTAT/UIS are each able to access. This reduces the burden on individual countries and helps to ensure that each of the international organizations is working with the same “version” of data from individual countries. OECD cleans data for OECD countries and sends to EUROSTAT and UIS at the end of January. EUROSTAT cleans data for non-OECD countries, including *accession* countries, and sends the clean data to UIS. If a country has a revision, it is supposed to send an email to the data submission address so that all three organizations receive it. For example, when OECD updates data it is saved in a common folder that all three organizations have access to.

The Member countries co-operate with UIS, OECD, and EUROSTAT to develop and apply common definitions and criteria for the quality control of the data, to verify the data, and to provide the information necessary to interpret and report the submitted data. There is an expectation by the international organizations that participating countries will make all reasonable efforts to report according to the definitions, classifications, and coverage specified in the UOE data collection instruments. When countries cannot report according to the explicit international standards or if estimations or data aggregations are necessary, it is expected that the deviations will be documented.

While controls are in place to ensure that the participating agencies are notified if a country changes or updates submitted data, there is a need for better maintenance of metadata shared among the organizations indicating when and why changes to data were made. What metadata countries do currently submit is reported in the appendices of publications, but this does not always make its way into on-line databases, making it difficult for data users to know about these deviations in reporting. The international organizations recognize that this is a problem.

In order to improve consistency across databases held by UIS, OECD, and EUROSTAT, the latter has implemented a data revision policy for its Member states, which the OECD, through its Technical Group, is considering adopting. This policy:

- Sets rules for how and when a country can update its data
- Establishes procedures for updating data once changes are approved

---

<sup>3</sup> World Education Indicators programme countries (16 largely middle-income countries) complete the UOE questionnaire and additional items. WEI-specific tables have been introduced by UNESCO-UIS to address data needs for the Education for All Monitoring Report on new entrants in the first grade of primary education, on new entrants in lower-secondary education, and on graduates in lower-secondary education. The WEI countries also fill out further information beyond the UOE (e.g., personnel data). These tables are only filled out by WEI participants, whose participation is managed by UNESCO-UIS, although initially it was a joint exercise of the UNESCO-UIS and OECD.

This policy has the potential to increase the capacity of organizations to have consistent data online. To both improve the comparability and consistency of data over time, countries will be asked to update the last two years of data plus 2000 and 1995 whenever they make a change in the methodology underlying their data reporting.

To help facilitate the transfer of data between countries and international organizations as well as between international organizations themselves, the UIS developed and OECD and EUROSTAT will implement an SDMX (Statistical Data and Metadata Exchange) version of the UOE database. This is part of a broader SDMX initiative hosted by the UNSD. This format will provide a standardized flat file format with a codebook that countries can use to submit data (i.e., they will not need to manually fill in an Excel spreadsheet if they have an MIS system that can export to this format). More importantly, the use of SDMX will set the standard for which UIS, OECD and EUROSTAT transfer and store data. This would also be the format in which data would be shared with other organizations (e.g., the World Bank), allowing these organizations to build applications around a predetermined data structure.

One example of how OECD, UIS, and EUROSTAT are collaborating on definitions relates to the mobility of students. OECD and UIS want to apply different operational definitions (residence in country of enrolment) than EUROSTAT does (enrolled in a different country than where they earned a prior qualification). There is agreement across the organizations that they need to make it known to data providers that different operational definitions exist. There also seems to be agreement that data should be collected across both definitions (for some countries it matters, others it does not). OECD and EUROSTAT both claim that their Member States will decide on the definition that they want for reporting.

An additional issue that can lead to inconsistencies in reported data is that UIS, EUROSTAT, and OECD are each on different publication timelines and that edits that are made to UOE data during the review process of one organization can end up contradicting data that other organizations have already published. Further, different publication schedules can lead to the reporting of different measures when data from outside the UOE data collection (e.g., financial data from the IMF) is updated. Better tracking and documenting of these changes would help the different organizations understand differences in their published indicators as well as help them maintain consistent data in their internal databases.

In other instances, indicator calculation methodologies are not always consistent across organizations. For example, for indicators on public expenditures on education, OECD only reports expenditures on educational institutions. EUROSTAT includes all public expenditures (e.g., loans for housing). The current solution is to make clear what data the indicators are based on using



table titles and appendix notes. The organizations feel that they cannot force each other to use the same indicators when audiences and stakeholders (and/or comparability issues) are different. Although they acknowledge that this can lead to confusion, they believe that the best course of action is a commitment to transparency.

### **WEI and UIS data collections for non-OECD countries**

The World Education Indicators (WEI) Program started as a joint UIS-OECD program that developed policy-relevant education indicators with national coordinators from 16 middle-income countries that comprise a large part of the world's population, including Argentina, Brazil, China, Egypt, India, Indonesia, Jamaica, Jordan, Malaysia, Paraguay, Peru, Philippines, Sri Lanka, Thailand, Tunisia and Uruguay). Three countries which were members of the WEI programme have joined the OECD INES programme, including Chile and the Russian Federation. Brazil is a member of both networks. Based on the OECD INES model, WEI began as a pilot project in 1997 with an original group of twelve countries, covering every region of the world. The WEI program is now in its 11th year. One of the advantages of the WEI data collection is that the participating countries in the program have designated a National Coordinator who, in theory, is responsible for submitting all the questionnaires duly completed.

For the countries completing the UIS annual survey on education, questionnaires are sent by UIS to UNESCO National Commissions (and for a small number of countries to UNESCO Permanent delegations or to National Statistical Offices). These organizations are formally responsible for assigning the different questionnaires to the most appropriate agencies that will complete these questionnaires and provide the information requested by the UIS. The National Commissions for UNESCO are national bodies set up by Member States for the purpose of associating their governmental and non-governmental bodies with the work of the Organization. They are based in the countries and usually at the National Ministries of Education. UIS notes that while there might be some cases for which the National Commissions slow down data collection effort, they represent some stability in countries where there is a high turnover of technical staff. They also help the UIS to identify the most appropriate people to deal with specific UIS data needs.

The experience of the WEI project has demonstrated to UIS that some non-OECD countries are able to provide an additional subset of the data collected in the UOE questionnaire; but at the same time, others are not able to provide more data than what is currently requested. UIS does not feel that it is possible at this stage to expand the UOE data collection beyond the WEI but will provide opportunities for a few countries to join the WEI program. Further expansions would require additional resources for capacity building, both to improve the internal data collection mechanisms within countries and to improve the reporting of country data to international organizations.

## **Collaboration on ISCED**

All of the organizations interviewed and most of the countries participating in the survey pointed out the continued challenges of applying the International Standard Classification of Education (ISCED) to the classification of education programs and related data (enrolments, completions, staffing, and finance). ISCED was designed by UNESCO in the early 1970s to serve as “an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally”. It presents standard concepts, definitions, and classifications for mapping national programs to an international classification of education levels.

There are an increasing number of Member States calling for a review of classification criteria. They cite the following problems: ambiguity in the boundaries at different ISCED levels of education; programs and technical vocational education cutting across ISCED levels 2, 3, 4 and 5; as well as inconsistent use across countries of ISCED 4 (post-secondary, non-tertiary). In the survey, some countries reported that there are also problems in applying the fields of education as well.

Applying ISCED to measures of educational attainment is a particularly challenging issue, as credentials and qualifications named in labor force surveys and censuses do not always map well to current educational programs. Recently, EUROSTAT and OECD’s Network B have been working together to have OECD/EU countries map their National Educational Achievement Categories (NEAC) to ISCED-97. Countries completed a questionnaire detailing how they collect the data that they base their educational attainment numbers on (e.g., labor force surveys) and their NEAC-to-ISCED mapping. One difference between EUROSTAT and OECD is that EUROSTAT can mandate the level of detail that countries must collect regarding educational attainment in labor force or household survey while OECD relies on countries’ interest and willingness to collaborate.

To address persistent issues in the application of ISCED, UIS has begun a formal review, in collaboration with OECD and EUROSTAT, to examine current definitions and classification criteria and determine if revisions or new conceptual definitions are necessary. UIS is in the process of forming a global ISCED Technical Advisory Panel to guide the review strategy, take part in regional consultations, assist in targeting research, and provide inputs into the preparation of the recommendations.

An additional opportunity for collaboration exists in the preparation of instructions that different international organizations give to countries when asking them to report educational attainment or enrolment data. While UNICEF and UNSD currently request that countries use the ISCED classification scheme when

submitting data from household surveys or censuses, respectively, there is currently no mechanism to either check the compatibility between how a program is being reported in the UOE data collection and these collections by other organizations.

### **Other examples of collaboration between OECD, EUROSTAT, and UIS**

In order to keep other organizations apprised of what EUROSTAT is doing, OECD is invited as an observer to EUROSTAT working party meetings. While EUROSTAT notes that there is some redundancy between EU countries participating in EUROSTAT Working Groups and OECD Working Parties, they try to minimize this by bringing different issues to each group and sharing common working papers across the two.

OECD and UIS have access to data and documents on EUROSTAT's internal server. In turn, EUROSTAT and UIS are invited to OECD Technical Group meetings and have participated in varying degrees in the work of the OECD Networks. For example, at a joint meeting of the Technical Group and Network B in 2008, with EUROSTAT participating, there was work to try to define adult education and discuss data overlap between labor force surveys and the UOE data collection. Another collaboration between OECD and EUROSTAT is on private expenditures on educational goods and services. The two organizations are working together to make a joint survey.

OECD, EUROSTAT, and UIS also coordinate, to a lesser extent, their sample survey and assessment work. For example, the European Commission is contributing funding (directly to countries) and attending advisory meetings for both the OECD Teaching and Learning International Survey (TALIS) and the Program for the International Assessment for Adult Competencies (PIAAC). In addition, UIS has participated in PIAAC development meetings. The UIS has supported non-OECD countries in analyzing the Programme for International Student Assessment (PISA) data and jointly published an analysis of PISA results with OECD.

While PIAAC is oriented towards upper- and middle-income countries, LAMP is a large-scale effort coordinated by UIS to validate a measurement approach and to develop capacities in measuring literacy skills. It was conceived on the basis of previous work in this area conducted in more-developed countries (IALS/ALL) and relies on the technical expertise of those behind that experience (Education Testing Service and Statistics Canada). Statistics Canada contributed significantly in the inception of LAMP in all aspects (management, tools and document sharing, knowledge and field experience transmissions, analysis, etc.). Statistics Canada along with the U.S. National Center for Education Statistics (NCES) and the Education Testing Service developed a LAMP like assessment that was successfully conducted in both Canada and in the United States. Validating the approach implies taking into account issues not addressed by

IALS (for instance the reality of oral languages). Collaboration with national teams, therefore, plays a major role in adjusting the approach and tools, and UIS expects that to be sustainable LAMP will need to rely on a significant contribution by local and regional expertise.

### **OECD and IEA**

OECD and the International Association for the Evaluation of Educational Achievement (IEA) compete for countries' participation and funding in student assessment. The two kinds of studies differ in their purposes, conceptual frameworks, and sampling plans; with IEA focusing on content taught to students in particular grades and OECD focusing on broader literacy and life skills among an age cohort near the end of secondary schooling. There were consultations between OECD and IEA as to why countries differed in performance rankings on PISA and the Trends in International Mathematics and Science Study (TIMSS). Despite these differences, a number of countries remain concerned about the costs and data collection burden associated with participating in both studies.

### **UIS and UNSD**

UIS and UNSD exchange census literacy data bi-annually, in order to improve coverage on both sides. Literacy census data received from UNSD are checked and “processed” by the UIS who then advises UNSD of any errors or inconsistencies – and vice versa. UIS sends its final data tables (including data that it collects on literacy and educational attainment) each year to UNSD and the United Nations Population Division (UNPD) for validity checking across agencies. However, the UIS maintains the mandate for monitoring the education-related Millennium Development Goals.

Definitions and classifications for education statistics in the *United Nations's Principles and Recommendations for Population and Housing Censuses* are based on definitions provided by UIS. National accommodations to these recommendations are collected as metadata. It is not clear “who” an NSO would go to with questions. There could be a role for UIS in providing technical assistance and verification of reporting practices. For reporting of enrolment and attainment data from the census, NSOs are left to map their national programs to ISCED on their own. Although national ISCED mappings are available on the UNESCO website, this process and their implementation is neither controlled nor monitored. There is no critical review of this practice, which could lead to comparability problems.

#### *Use of population data in the reporting of indicators*

One of the main country concerns in the reporting of education indicators published by international organizations involves the use of population projections from UNPD instead of country-level estimates, which can lead to

differences in population-based indicators such as enrolment rates. In order to ensure comparability across countries, UIS uses UNPD population estimates and projections. Countries continue to have issues with their own population estimates not matching UN Population Division Projections—leading to differences in enrolment rates calculated nationally and those calculated by UIS, even when the numerator (enrolment) is the same.

To create UN population projections, UNSD collects information from countries and then UNPD produces estimates and projections of population. These are renewed every 2 years. UN Projections are not always aligned with national estimates and there is no specific mechanism for resolving this problem.

For example, there is typically a lag between the time that national population estimates are produced and when UNPD updates projections for the same time period. It has been noticed that between revisions, some countries' data have changed dramatically. The absolute change may exceed 10 percent for some countries, which has a big impact on population-based indicators. The lack of accompanying metadata puts the UIS in a difficult position to explain the resulting indicators.<sup>4</sup>

There is a Task Force that is currently looking into the population estimates of UNPD. The UIS is contributing a technical paper that looks at issues related to education data. The Task Force reported in September 2008 to CCSA.

## **UIS and UNICEF**

Problems of co-ordination and comparability of data have generally been greater among organizations working with less-developed countries, where the UIS and others (e.g., World Bank, UNICEF, and individual donor agencies) maintain separate data collections. One example is the use by UNICEF of school attendance measures based on household survey data that produce different results compared to administrative data and national estimates. UNICEF wants its estimates of school attendance used, or at least published alongside, enrolment rates published by UIS. UIS uses these data to verify the quality of administrative data or to help form national or UIS estimates but notes the lack of

---

<sup>4</sup> In the Latin American & Caribbean (LAC) region, for example, there are issues with UNPD projections. Many countries in LAC complain about UIS' use of UNPD population projections instead of national projections (Cuba, Brazil, Dominican Republic, etc.). They argue their national projections coincide with those produced by the Latin American and Caribbean Demographic Center (CELADE) but not those produced by UNPD. Several countries logged a complaint inside the Statistical Conference of the Americas during 2007. They said that an official recommendation in the Conference suggests that when a country has "consistent" and "robust" data, UNPD has to use this figure instead of UN projection. A commission was defined to work with this issue led by the Economic Commission for Latin America & the Caribbean (ECLAC) and CELADE.

a valid methodology for creating reliable estimates drawing on different data sources

In 2003, UNICEF and UIS brought these two data sources together in the joint UIS/UNICEF Report on *Out of School Children*. They looked at both data from Ministry and household surveys, and if ratios were more than 5% apart they identified countries where further research was needed and where household survey estimates might be used to substitute for national figures. A substantial amount of desk research was undertaken on this group of countries. In the end, a joint report was produced that presented a single figure of 115 million children out of school for 2002. UNICEF claims that this project ran into political difficulties, in that the UIS Director did not approve of the methodology and would not approve release of the report. UIS reports that its Director wanted to ensure that the methodology had been thoroughly reviewed by external experts before publication, and two international experts undertook its evaluation, so this delayed the release of the report. The experts noted that there were a number of issues that needed to be addressed in taking this approach further.

UIS reports that the major obstacle in continuing the approach taken in the *Out of School Children* report is that the methodology developed was not designed to create annual estimates as required by EFA Global Monitoring Report and other data users. UIS has undertaken efforts to develop a robust model for integrating sources of data from MoEs and Household Surveys on an annual basis. A methodology was recently prepared by a known expert in this field, and it has been reviewed by several respected statisticians. The methodology, however, was extremely complex and it was considered to have been too difficult to present results transparently to Ministers of Educations and others. As a result, UIS has returned to reviewing data on a country-by-country basis. Most recently UIS agreed that they would identify key countries with significant gaps between attendance rates from household surveys and enrolment rates calculated from ministry and population data for further investigation. Opportunities remain, however, for additional collaboration between UNICEF and UIS on enrolment and attendance data.

### **International organizations and regional organizations**

The UIS is involved in a number of regional developmental efforts. Most of this work is dedicated to improve data quality for international reporting and national purposes. UIS maintains relationships with the UNESCO Regional Bureaus and participates in many regional and sub-regional initiatives to coordinate the collection and reporting of comparable data. In collaboration with UNESCO and UNICEF Regional and field offices and the SPBEA (South Pacific Board for Education Assessment), UIS is supporting the development of an information system for better and more timely education data collection and reporting in several countries: Bangladesh, Cook Islands, Nepal, Myanmar, Pakistan, Tonga and Viet Nam; and will soon be adding Afghanistan and Bhutan.

OREALC/UNESCO Santiago has collaborated with MERCOSUR's (Southern Common Market) Education Sector Information and Communication system in the development and analysis of education indicators.

Another example of coordination between an international organization and regional partners involves assessment in Latin America. The Latin American Laboratory for Assessment of the Quality of Education (LLECE) is the quality assessment system network for education in Latin America. Its activities are coordinated by UNESCO Regional Bureau for Education in Latin America and the Caribbean (OREALC/UNESCO Santiago). LLECE's activities are focused mainly on producing information on students' learning achievements and analyzing the various associated-factors underlying their progress. Additionally, it provides support and technical assistance to measurement and assessment Units at the country level, and serves as a forum for reflection, debate and exchange of new approaches on education evaluation.

In general, UIS regional staff play a key role in facilitating the UIS international data collection and following up with countries in the region for UIS annual and ad-hoc questionnaires, as well as in resolving issues in data discrepancies, coverage, completeness, and ISCED mappings. They also advise on the data required in the joint work of the UN Common Country Assessment and UN Development Assistance Framework, Millennium Development Goals (MDG), and consultations on regional and national Human Development Reports and other UN monitoring reports. Finally, they assist in the clarification of discrepancies between the national and the UIS statistics and advise on improving national statistics with reference to ISCED and operational definitions of indicators.

### **Forums for collaboration across international organizations on education statistics used to monitor the MDGs**

There is an Inter-agency and Expert Group (IAEG) on MDGs, consisting of the UN Statistics Division (the Secretariat) and about 25 agencies. The group related to education includes UIS, UNICEF, the World Bank and ILO. This IAEG meets twice a year to discuss measurement issues, data dissemination, metadata, and guidelines. The IAEG also developed technical guidelines for each MDG indicator explaining how the data are collected, processed, and disseminated in order for the user to understand possible differences between international and national data. UIS reports that meetings are useful in order to harmonize monitoring of international goals. For instance, the UIS led the revision of indicators for monitoring progress toward Universal Primary Education (MDG goal 2) and gender equality (MDG goal 3) in order to make them coherent with the Education for All (EFA) monitoring.

While this group provides an opportunity for organizations to debate how collected data should be reported to measure progress towards the MDGs, it is

not designed as a forum to discuss data collection strategies or definitions. There is also co-ordination (more informal) across agencies involved in EFA/FTI reporting each year.

### ***Part III. Emerging policy needs***

The following topics arose in the interviews with individuals in international organizations and from the country surveys as areas where near-term data development work needs to occur. These topics need to be tackled collectively by the collectors and users of educational data in order to better ensure the applicability of constructs and definitions across high-, middle-, and low-income countries. Even though one organization may take the lead in developing definitions and instrumentation, cross-organization collaboration and co-ordination is needed to ensure that comparable data can be collected and reported across all countries. To put it another way, even though OECD and EUROSTAT may take the lead on data development on issues that are of emerging interest to high- and middle-income countries, UIS and other organizations responsible for collection, monitoring, or reporting education issues across a wider range of countries need to actively participate in this developmental work to ensure that resulting data collection frameworks are sensitive to policy needs and collection constraints of countries with lower current capacity to collect data.

#### *Lifelong learning and Adult Education*

One stated priority for the European Commission is the further development of measures of life-long learning. A number of countries have life-long learning as an explicit component of their conceptual and statistical frameworks (e.g., Australia, Canada). There are many issues around the borders of formal, non-formal, and informal education and between initial and continuing education that remain to be defined and put into consistent practice, including a classification of learning activities and a scheme to describe how activities relate to ISCED levels in formal education.

As a start, EUROSTAT has prepared a proposal that has been shared with OECD and UIS, and is moving forward on its own labor force survey (LFS) module on Adult Education. Countries participating in OECD's Network B have provided feedback. It is important for UIS to assess whether this framework is compatible with the data needs in non-OECD countries.

UIS also noted that Adult Education is a policy area that requires attention and much data development. Data and appropriate data collection instruments for non-OECD/EU countries are very limited at both the national and international levels. Work needs to be done to identify priority policy areas, the scope for cross-national data collections, appropriate data collection mechanisms



(including instruments), and appropriate sets of indicators to inform policy and establish and maintain an adult education international database.

### *Learning outcomes/Quality of education*

UIS identified learning outcomes and other measures of educational quality as a priority for future data development. As many countries are approaching the quantitative goals of Universal Primary Education (UPE), they are turning their attention to the content of education and therefore seeking data for the indicators of "quality." OECD also noted that the efficiency of outcomes of education is a priority for data development among its member countries.

### *Education Finance*

Improvement of education finance data was an issue raised by UIS, OECD, EUROSTAT, and the World Bank. Financing education is a critical issue in poor countries and therefore demand for statistics on not only government expenditure, but also household education expenditure and external sources of funding are still in great demand (available in surveys of household expenditures in many countries). Many countries, however, are faced with poor quality and coverage of education finance statistics. These problems have been brought into sharp focus as national policymakers strive to get a better sense of what is spent on education.

Further, countries have difficulties reporting education finance data according to UIS categories and often report higher levels of aggregation. UIS has tried to get country-level help from IMF and the World Bank, but the World Bank has no mandate to collect finance data. UIS is making a move towards customizing forms to fit national data systems, which might help the situation. The World Bank feels that UIS is under-funded for capacity building around finance. The UIS, together with partners such as the Pole de Dakar, the UNESCO International Institute for Education Planning and the World Bank, has given special priority to improving the quality and coverage of education finance data in sub-Saharan Africa. The main objective of this work is to develop and implement a mechanism to regularly produce education finance data. It serves as a follow-up to the World Bank's Country Status Review (CSR), which combines intensive data gathering with statistical capacity-building for national teams. The work seeks to reinforce these national capacities while promoting the continued production and use of education finance indicators, particularly in the monitoring of sector-wide plans. National teams of statisticians are active partners in identifying and using national data sources on education finance. This effort also fosters the creation of regional networks while building links between national and international data reporting requirements.

### *Better Knowledge of Subpopulations excluded from Education*

UIS reports that experience with the EFA Global Monitoring Report and the national Mid-Decade Assessment has raised the need to formulate more targeted policies.. As a result, demand has increased for analytical breakdown by more variables than just sex and public-private, including urban-rural, language of instruction (official "national" language only versus multi-lingual), wealthy-poor, enrolment in free education versus tuition-fees financed education, etc.. Sri Lanka noted in their survey response that current definitions of urban and rural cause problems of comparability.

### *Narrowing Data Gaps between Different Subgroups*

UIS recognizes the need to improve efforts to reduce data gaps in relation to disadvantaged groups such as ethnic minorities, children with disabilities, etc. Inclusive education is rising as a policy priority, and there are many advocacy groups on behalf of children with disabilities and donors willing to support efforts to include these children as a matter of rights-based education.

## **Part IV. Data collection burden on countries**

In the survey to Task Force Members and selected other countries, costs for adhering to international requirements were the greatest concern, although “duplicate responsibilities for data collection or reporting across agendas” was not seen as a serious problem. Examples of cost, however, mainly concerned those related to participating in the OECD INES project and the country-level costs for making estimations or special manipulation because national data do not clearly align with international definitions. Appendix F provides responses from Australia, Brazil, and Canada to the survey detailing country responses to education data requests from international organizations between September 1, 2006 and August, 31, 2008. While these data are limited to only three countries, several issues related to data collection burden on countries arise. First, there appears to be overlap in the topics of the data requests, suggesting that country burden might be reduced by greater coordination of requests across international organizations and regional organizations. Second, data requests come from organizations with mandates well beyond education (e.g., Asia-Pacific Economic Cooperation (APEC), MERCOSUL (Free Trade Market of the South), and the Organization of American States (OAS) which suggests the need for coordination across a wider array of organizations than were specifically studied as part of this review. Third, requests come in to a wide range of government departments, increasing the need for countries to coordinate data requests internally so as to both reduced burden and prevent reporting inconsistent data to different agencies. Fourth, country reports of the time needed to complete requests is significant, often several person-equivalent months, suggesting that significant reductions in cost could occur if overlapping data requests could be minimized. While issues of overlapping responsibility and burden are difficult to quantify

because currently available data from one organization may not meet the specific data needs of another organization, coordination of efforts across organizations could help better define both international and regional data needs with the hope of reducing the number of data collections on similar topics. Publishing data on accessible websites has helped to alleviate some of the need to collect duplicate data. Better coordination across organizations regarding planned and ad hoc data collections could help to reduce country burden. The issue of how this might be done is addressed in the recommendations section of this report.

### ***Part V. Recommendations made by the consultants that have been approved by the Task Force***

The final part of the report presents recommendations to the Education Task Force, based on the framework mapping exercise and analysis of the interview and survey responses, while taking into account feasibility, relative importance for reducing country reporting burdens and improved data comparability.

#### *Guiding questions*

- With regard to the comparative measurement frameworks and their direct implications for data collection quality and comparability, should the activities of the Task Force take a conceptual approach that further develops models of *how education works* to guide our definitions and indicator sets, to focus on other concepts (e.g., classification of learning activities), or to focus on improving existing models and frameworks?
- What areas of international co-ordination could be improved?
- How feasible and relevant are proposed activities for further development?

#### ***Statistical Frameworks***

There has been a significant improvement in the quality and coverage of educational statistics in the last decade. Much of this improvement is a result of collaboration among international organizations and national representatives and experts on definitions (e.g., expenditure on education from public sources), concepts (importance of measuring enrolment by single year of age), methodologies (e.g., mapping programs to ISCED) and 'integrated' data collection across agencies (e.g., UOE, collaboration around assessments). These efforts to build a cross-national statistical framework are essential for the comparability of education data collected from different countries and reported by different agencies. While there are areas where increased collaboration and co-ordination are needed, ISCED and existing UOE and UIS definitions and

classification schemes are the foundations for comparability and should be regularly revisited and renewed.

There is less need for a uniform, cross-national conceptual framework that would dictate areas of data development. Currently, international organizations work with a variety of conceptual frameworks - ranging from goals that need to be monitored to models attempting to explain relationships between inputs and outcomes - that meet the different policy needs of the organizations, their Member States, and stakeholders. It is critical, however, that when a single organization begins work translating elements of its conceptual framework (e.g., life-long learning) into its statistical framework (how to measure life-long learning), international organizations need to collaborate so that the resulting definitions, concepts, and methodologies meet the needs of various stakeholders and lead to compatibility of measures across agencies. While the Task Force recognizes the value of conceptual frameworks at both the national and international level for improving education statistics (e.g., identifying gaps, anticipating emerging issues), a single conceptual framework that applies to all organizations is not recommended.

### ***Co-ordination between international agencies***

Collaboration and co-ordination between international organizations in data collection, processing and reporting, particularly EUROSTAT, OECD, and UIS, is stronger now than ever. Nevertheless, there are instances where international agencies (i) request similar data in uncoordinated requests; (ii) lack coordination in data collection schedules; (iii) use terms with different definitions; and (iv) are handicapped by differing internal regulations pertaining to validation and the mechanisms of data use. This requires a rethinking in order to meet future challenges. The Task Force makes specific recommendations below on issues of data sharing, timing and sequencing of publications, dissemination and access to data, and the constitution of a Task Force on ISCED and an Inter-agency Panel on Education Statistics.

The Task Force recommends that UIS create an ISCED Expert group for reaching consensus on developing methodology, updating definitions, providing country support (e.g., organizing peer reviews), and developing procedures for mapping educational attainment data to ISCED (e.g., data gathered through population censuses or labor force or adult education surveys). There is already considerable collaboration between OECD, EUROSTAT, and UIS on ISCED, but it would be useful to formalize these relationships and bring on board other international organizations (e.g., UNSD, UNICEF) that collect data on educational participation and attainment. As ISCED is the key statistical framework for translating national data into internationally comparable categories, sustained focus on improving its applicability and implementation is warranted.

The Task Force also recommends the creation of an Inter-secretariat working group on education statistics. Led by the UIS, this group would work to maintain and promote development of international standards, push to reduce duplicative efforts across international agencies, set global strategies for data development, promote participation of non-OECD countries in international data collection efforts, raise the profile of education statistics, develop collaborative strategies for improving the quality of education statistics in non-OECD countries through capacity building activities, ensure efficient data exchange among agencies, and support allocation of resources to statistics at the institutional level. While a number of agencies already cooperate informally across a range of these functions, it would be useful to formalize this collaborative structure and expand its membership.

One task of this Inter-agency group could be to improve co-operation among agencies/countries for reducing reporting burdens (e.g., from ad hoc requests when data are available in another organization) and reducing inconsistencies by setting standards for uniform application of statistical frameworks (e.g., to harmonize data collection methodology between household survey and administrative data collection).

Another important task of this Inter-agency group would be to better coordinate fundraising and implementation of statistical capacity building as it relates to education. Current efforts by national and international agencies to improve statistical systems in developing countries are often uncoordinated, leading to inconsistent and inefficient initiatives. Formal collaboration among organizations to coordinate funding for activities at the country or regional level could help improve the targeting of resources.

While it is beyond the scope of this review to recommend particular agencies to this group or set a more specific agenda for collaboration, a formally organized body with a procedure for agenda setting and resource allocation could help to improve the quality of education statistics cross-nationally and reduce country burden.

## Appendix A

### Country Survey on Cross-National Education Statistics

Greetings:

As part of efforts to reflect the current situation and in order to identify areas for further improvement, we have been asked by the UNESCO Institute for Statistics (UIS) to survey its member countries on the following three topics:

- (i) The activities (or involvement) of international agencies in the field of collecting and disseminating comparative education statistics. This may include UNESCO itself and other UN agencies, OECD, EUROSTAT, the World Bank and regional development banks, regional organizations such as APEC, CEPAL, ASEAN, bilateral agencies and others.
- (ii) The areas where these activities may be co-ordinated well, where they may over-lap, and where there may still be gaps, and
- (iii) Any suggestions and/or recommendations which may be useful to consider to improve the current practice of collection and dissemination of cross-national educational statistics.

We are honored to be a part of this survey, and we hope to include your input as we compile the results for a Task Force on Education Statistics being organized by the UN Statistical Commission. The Task Force explores issues around international education statistics and co-ordination of international agencies in this area. We understand that your time is very limited, and we are grateful for the attention and effort that you give to this. We are sending this survey to National Statistical Offices as well as Education Ministries involved in the submission of education data to international or regional organizations. As with any survey of this kind, you should feel free to express any view you wish to draw to our attention. We will report the results in the aggregate and any quotes that we might use will be detached from the names of respondents or their countries. In addition to this brief questionnaire, we would encourage you to add additional comments by email or by telephone. You will find our contact information below.

Again, thank you for your contribution.

Sincerely,

Stephen P. Heyneman  
Professor, International Education Policy  
Vanderbilt University  
Nashville, Tennessee, 37203- 5721  
United States  
+1 615 322 – 1169 (Office)  
+1 615 343 – 7094 (Fax)  
[s.heyne@vanderbilt.edu](mailto:s.heyne@vanderbilt.edu)

Thomas Smith  
Assistant Professor, Public Policy and Education  
Vanderbilt University  
Nashville, Tennessee, 37203 - 5721  
United States  
+1 615 322 – 5519 (Office)  
+1 615 343 – 7094 (Fax)  
[Thomas.smith@vanderbilt.edu](mailto:Thomas.smith@vanderbilt.edu)

1. In your country, is there a rubric or conceptual framework to guide the collection and reporting of education statistics? Could you please share a copy with us (by email if possible)? If you do not have a conceptual framework, how are decisions made with respect to the kinds of data which you collect and report?
2. Please list the international/regional agencies with which you share education data on a regular basis. Are there international/regional agencies that collect education data in your country (e.g., through household surveys, student assessments, literacy assessments)? If yes, please list the agency and describe the data collection.
3. For each agency that you supply data or that reports statistics based on your data (e.g., UNESCO Institute for Statistics, OECD, EUROSTAT, World Bank, UNICEF), could you rate the following list of issues as presenting no problems (#1) to major problems (#7) in the collection and reporting of education statistics by international/regional organizations. Minor problems would reflect issues that can be resolved internally or easily. Major problems are ones that are difficult to resolve or where consensus cannot be reached between international organizations or between international organizations and submitting countries. After you rate each issue, please list the agencies that you are referring to in your rating and describe the problem in detail.

	No problems	Minor problems-rarely	Minor problems-sometimes	Minor problems-often	Major problems-rarely	Major problems-sometimes	Major problems-often
	1	2	3	4	5	6	7
Differences in how ISCED categories are applied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? What ISCED levels? Describe problem:							
Reporting different data/indicators based on the same underlying information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? What data/indicators? Describe problem:							

Differing sources of underlying population and economic data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? Which data sources? Describe problem:							
Processing or calculation errors made by international organizations after you submit National data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? Describe problem:							
National access to international data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? Describe problem:							
Costs for adhering to international requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? Describe problem (including the magnitude of the cost in time or expenditures):							



Duplicate responsibilities for data collection or reporting across agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Which agencies? Which responsibilities? Describe problem:							

4. Are there other problems or issues in the collection, processing, or reporting of education statistics across these international/regional agencies that are not listed above? If yes, please describe.
5. In what areas or topics do you think there needs to be additional coordination across agencies regarding the collection, calculation, or dissemination of education statistics?
6. What recommendations would you suggest for achieving this international coordination?

Thank you for completing this survey. We would greatly appreciate if you could submit your responses by December 18, 2007 (by email if possible) to:

Thomas Smith  
Assistant Professor, Public Policy and Education  
+1 615 343 – 7094 (Fax)  
[Thomas.smith@vanderbilt.edu](mailto:Thomas.smith@vanderbilt.edu)

## Appendix B.

### Results of the survey to Task Force Members and selected other countries

Below are reported questionnaire results from Australia, Brazil, Canada, Cuba, France, Russia, Sri Lanka, the United Kingdom, and the United States. Areas deemed most problematic for countries included the costs for adhering to international requirements, differences in how ISCED categories are applied, and processing or calculation errors made by international organizations after national data are submitted. Details reported by respondents are summarized below.

<b>Problem</b>	<b>Average score (1=no problem – 7=major problems)</b>
Differences in how ISCED categories are applied	4.0
Reporting different data/indicators based on the same underlying information	2.1
Differing sources of underlying population and economic data	2.2
Processing or calculation errors made by international organizations after national data are submitted	3.4
National access to international data	1.3
Costs for adhering to international requirements	4.8
Duplicate responsibilities for data collection or reporting across agencies	2.2

---

#### *Written responses to questions*

Of the seven questions posed, number six, costs for adhering to international requirements, seemed to raise the most problems.

- Russia mentions that the annual cost of participating in INES is about Euro 30,000.

- The U.S. mentions that the costs are magnified because the national data do not clearly align with international definitions, and considerable manipulation and estimations of data are required costing between \$US 75k – 100k.
- Although Canada gave it a ranking of seven (maximum) they explain that one should not really equate a cost in time (hence money) with a problem. It is simply a reality that UOE data collection and adherence to their regulations are ‘onerous tasks’.
- Brazil indicates that costs were a major issue when the country decided to participate in INES and PISA. Besides the voluntary contributions per program, there are the participation costs related to the meetings.

Perhaps more serious are responses to question one on the differences in how ISCED categories are applied and to question four on the processing or calculation errors made by international organizations after national data are submitted.

*How ISCED categories are applied.*

- The US has challenges disaggregating data by some ISCED categories. It cannot provide data on ICSED 4, nor can it break out finance data between categories 5A, 5B, or 6. US representatives also point out that there is an inconsistency in how alternative high school credentials (such as the GED) are treated between the UOE instrument and the OECD Network B (social outcomes of learning) instrument.
- France points to three specific problems of application: (i) on the distinction between vocational and general secondary education; (ii) the distinction between 5A, 5B, and 6; and (iii) the problems pertaining to education ‘fields’ or specializations.
- Russia notes that there is a program which should be categorized as ISCED 3 B and 5 B but because it is impossible to split some data (such as on finance) across the two programs, much of it is mis-categorized. Brazil also notes Ambiguous boundaries at the different ISCED levels, especially between ISCED 3 and 4; ISCED 5 (second degree) and 6.
- For ISCED 3 -6 – Classification of programmes by field of education, Brasil uses the Fields of Education and Training Manual, prepared by STATISTICS SWEDEN Ronnie Andersson and Anna-Karin Olsson. Given the diversity of new courses, the guidelines are no longer enough.

*Processing or calculation errors made by international organizations after national data are submitted.*

- Cuba reports that national population data are not used when calculating indicators.
- It was pointed out that population data compiled by the World Bank and the data reported by the US through the UOE instrument (based on US Census estimates) are different.

*Implication:* Countries may not understand reasons underlying differences in population estimates, even though they all originate in their NSO.

- Student assessment data from OECD and IEA show different results that need to be explained by examining the differences in purpose, populations, assessment frameworks, subject matter, and its relationship to the curriculum. These differences should be made clear at an international level since the problem affects all countries.

*Implication:* Even though OECD and IEA collaborated to understand differences in an individual country's performance in PISA and TIMSS, participating countries may not be fully aware of this work.

- The IEA and the OECD compete for attention and funding from the World Bank to support their respective work with developing countries in enabling them to participate in international assessments.
- Some countries appear to be choosing between TIMSS and PISA although the samples by ages/grades and assessment subject matter differ. Many countries may welcome better coordination between TIMSS and PISA that either more clearly differentiates them or merges them.

*Implication:* Although competition between international organizations can lead to innovation, education ministries and international organizations have limited funds to invest in activities that participants feel duplicate effort or return results that are different just because the designs are different.

- We would recommend seminars on the topics of finance, early school leavers, and higher education access and survival. The ISCED seminars should include task forces and peer reviews. They should be coordinated by UNESCO with the support of EUROSTAT and OECD and individual countries.

*Implication:* The call by countries for additional capacity building by UIS parallels the need expressed by other international organizations that work with low-income countries.

- Access to international databases in OECD and UNESCO is not always user-friendly.

*Implication:* Although on-line accessibility to data has increased dramatically over the last decade, some countries feel the websites themselves could be easier to use.

- It would be helpful if all international agencies could identify the sources (including contact details in the national statistical institutes) of the demographic and financial data which they use. This would help in-country replication and validation (especially ratios/percentages) that international agencies produce by combining numerators from education ministries with demographic and financial denominators from international agencies (e.g., IMF, UNPD).

*Implication:* As the international organizations noted in interviews, there is a need to incorporate detailed metadata linked to data available on-line or through digital media, not just in the appendices of published reports.

## **Appendix C**

### **Description of International frameworks**

#### **UNESCO/UIS**

UNESCO developed a conceptual framework in the 1960's-1970's to underpin its international data collection. It was influenced by a policy agenda that was focused on the needs of education planners and management of education systems. Since the UIS was founded in 1999, a new overall conceptual framework has not been introduced, but what was inherited from the past was amended in different ways. For example, the finance questionnaire was revised in the late 1990's to better reflect the more conceptually holistic approach of the UNESCO-OECD-EUROSTAT (UOE) data collection on sources and uses of education expenditure. The UIS provides technical guidance to the UNESCO-OECD-EUROSTAT (UOE) annual data collection. The UOE framework is also used in the UIS-led (from 1997 to 2005 in partnership with the OECD) World Education Indicators data collection (16 countries) which incorporates participating country inputs. A third data set of data collection instruments is used for the rest of the countries of the world. Survey 2000 and Survey 2007 data collections were redesigned through consultation with data producers and users, and data collection modules were piloted in less-developed countries.

#### **OECD**

There is an Outputs/Outcomes, Policy levers, Antecedents model that was developed for OECD's Indicators of Education Systems (INES) project that serves as a conceptual framework. Each of the dimensions is crossed by country/system, schools, classrooms, learner's matrix. As a rule, OECD does work that Member States want it to do—based on priorities set by its Education Committee (Ministers of Education), although all new work proposals are evaluated on the basis of this framework

OECD participates in the UNESCO-OECD-EUROSTAT (UOE) annual data collection of enrolments, graduates, and financial data; collects data on labor market outcomes of education through its Network B; gathers statutory information about teachers and schooling through its Network C; and conducts sample surveys (TALIS) and assessments (PISA and PIAAC) to produce data and indicators on the processes and outcomes of education. Ministries of Education approve these data collections through their representatives in different OECD committees and networks. As the OECD program of work is approved by its Education Committee and data collection instruments and mechanisms are designed collaboratively with country representatives, the data collection strategy is constantly being updated and expanded.

## **EUROSTAT**

EUROSTAT does not follow an explicit theoretical framework to guide data collection. The European Commission has a Policy Framework that is driven by the interests of politicians and policymakers (current interests include pre-primary education, dropouts, and life long learning). This does not make up a comprehensive, systematic framework, however. Collection of statistics and the development of indicators are also based on Legal Acts (a broad mandate set by European Parliament with EUROSTAT adding details). The types of data collected in the UOE fall under this mandate, although these mandates also require Member States to collect and report specific data, adhere to deadlines, and define obligations of member countries to report. Buy-in to the data collection is built before the legal acts are implemented, however, so that Member States have input into what data are requested and required. A Legal Act can help the country-level data providers to gain sufficient resources to complete the data collections. So in this sense, data collections respond to user needs (through the Council and Commission) rather than a Conceptual Framework. The most pressing need for EUROSTAT is to develop data that can accurately assess participation in learning throughout the life course, rather than traditional participation in educational institutions.

## **UNICEF**

UNICEF's framework for collecting education statistics is essentially the Millennium Development Goals (MDGs). By working to align the UNICEF Medium Term Strategic Plan (MTSP) with the MDGs, priorities are set for data collection and reporting. UNICEF sees the MDF as a conceptual framework that drives their data collection

## **World Bank**

The World Bank does not use a single framework for collecting education statistics. Individual programs typically collect what they "need to know" for monitoring programs. There is currently a push for a broader conceptual orientation regarding monitoring, "managing through development results". This could be considered similar to input/processes/outputs framework of OECD, but focuses more on outputs and impacts of Bank supported projects. Individual projects are responsible for developing measures of outcomes/impact, although in most cases do not collect data. For these measures they make use of national data as well as data collected by other international organizations, such as UIS.

## **UNDP**

UNDP is primarily a user of education statistics gathered by other agencies. They use UIS data for most education-related indicators in the annual Human Development Report. While the components of the Human Development Index are relatively stable, the topical focus of the Human Development Report pushes

current needs. If data are not available from the UIS, then UNDP goes to other sources.

### **UN Statistics Division**

While UNSD is not responsible for collecting education statistics (the role of UNESCO), it does collect information on enrolment and educational attainment from national statistical offices based on census data. Definitions and classifications for collecting and reporting education statistics through national census are published in the *Principal Recommendations for Population and Housing Censuses* based on definitions provided by UIS. UNSD advocates a world-wide framework for education statistics that could be adopted by the UN Statistics Commission, including

- Definitions
- Concepts
- Classification
- Set of core data to be produced.

UNSD is concerned that the current UOE data collection is not applicable to the data needs of non-OECD/EUROSTAT countries. UNSD supports identifying 'core topics' in education systems, including definitions and classification criteria that would apply to all countries.



## Appendix D

### Description of national frameworks

#### Australia

*Measuring Learning in Australia: A framework of education and training statistics, 2003* was developed by the National Centre for Education and Training Statistics within the Australian Bureau of Statistics. The framework is used as a “way of thinking about the boundaries and content of statistics on learning”. Key features of the framework include:

- (i) An underlying model which identifies various elements (context, participant, non-participants, providers, resources, activities, and outputs and outcomes)
- (ii) A multi-level structure (individual, organizational, systemic) and
- (iii) Both activity and industry perspectives.

The framework is designed to help identify data gaps or duplications in administrative or survey collections, frame deliberations on performance measures and disaggregation, organize data, and improve the comparability of data collections by specifying standard statistical classifications and definitions. Decisions with respect to the data that are collected and reported are made with the collective agreement of the Australian government department with responsibility for the education and training portfolios, their state and territory counterparts, and other relevant stakeholders.

#### Brazil

There are three main education data collection run by the Brazilian Ministry of Education: School Census on Basic Education (local acronym Inep), Higher Education Census and Data Collection on Advanced Studies. The Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira-Inep (National Institute for Educational Studies and Research Anísio Teixeira) is responsible for collecting data on basic and higher education; development of indicators to measure the capacity of educational services, their efficiency, quality and public expenditure; dissemination of the data to the general public, media and policymakers; and development and implementation of an integrated education information system. Inep is also responsible for evaluating the Brazilian educational systems at the national level.

The Coordination for the Improvement of Higher Education Personnel (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (local Acronym CAPES) conducts, annually, the continuous evaluation of graduate programmes

(master and doctor). As part of the evaluation process, institutions provide data on enrollment, entrants, graduates, personnel and courses offered.

The other source of education data are the Decennial Demographic Census and the National Household Sample Survey conducted by the Instituto Brasileiro de Geografia e Estatísticas (Brazilian Institute for Geography and Statistics, local acronym IBGE).

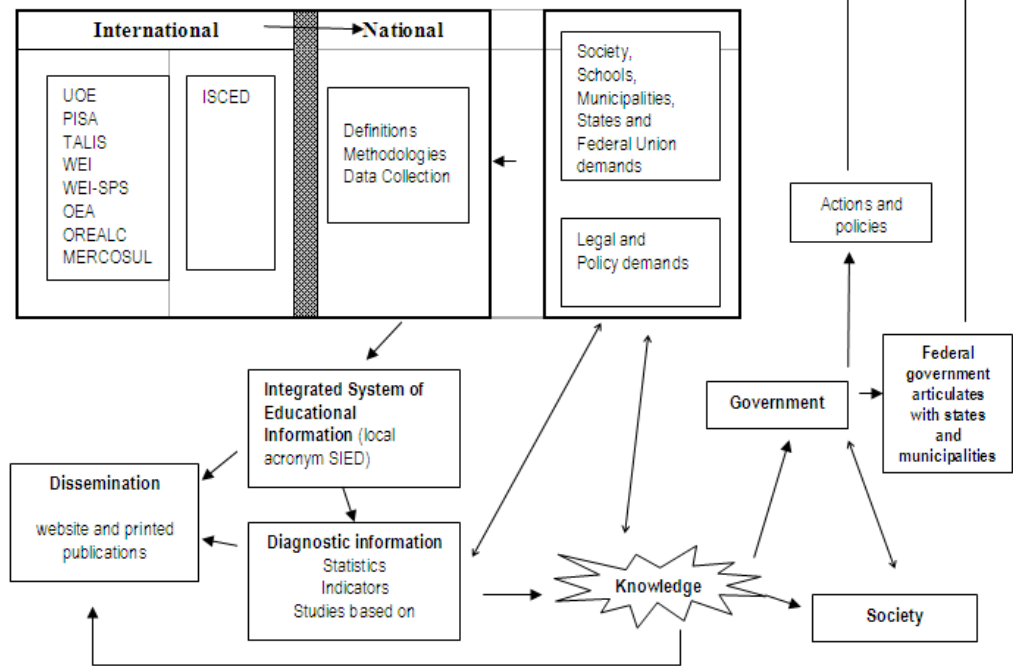
Consolidation of educational indicators, has become an indispensable tool for those who are formulating, implementing, monitoring and evaluating policies at all levels of government (federal, state and municipal) in the management of the education system and regulation of its educational policies.

The layout of the conceptual framework to guide the collection and reporting of education statistics produced by Inep is shown below.

**Conceptual Framework - Brazil**

	Antecedents	Inputs	Process	Outcomes/outputs
<b>Educational reality</b>				
System (Municipalities, States and the Federal Union)				
Level and modalities of education				
Society				
Schools				
Teachers				
Students				
Financial resources allocated to education				

**Statistical Framework**



## **Canada**

In Canada, there is no formally adopted conceptual framework for collection and reporting of education statistics, at least not at a national level. A rationalization – a sort of framework organized a posteriori – of data collection instruments and data elements collected can be made around two types of data, i.e. administrative data (mostly collected directly from provinces/territories and institutions) and population-specific sample survey data.

The Canadian Centre for Education Statistics has recently drafted a conceptual framework to guide the program of work. It sees this framework as a conceptual “roadmap” and situates the various data collections, indicator development work, and analytical projects within an overall organizing structure. While the elements of this framework reflect the Inputs, Processes, Outputs, and Outcomes frame utilized by the OECD, it recognizes that intentional learning is life-long; life-wide (takes place in multiple settings); requires multiple levels of analysis; takes place in a broader context; and is not linear.

## **France**

France has a detailed set of instructions for their surveys (approximately 60 per year) that vary by level of education and by topic. The list of surveys is decided in the cabinet of the minister and is published in the official report of the ministry.

## **Russia**

The program of statistics collection, including education statistics, is approved and issued by the National Statistics Agency annually. The Minister of Education and the National Statistical Agency collaborate on any changes to survey forms. The procedures and tools include tables (reporting forms) with manuals, with completion of forms compulsory for all actors (i.e. educational institutions, regional education departments). Usually the forms differ insignificantly from year to year, so data series are available for a long period.

Data series are published on a regular basis and accessible through Internet on National Statistics Agency’ website. At the same time, there is no unified methodology for calculation of educational indicators and indicators published by different actors (i.e., enrolment ratio, student teacher ratio etc.) and these could differ substantially, in fact often they do not correspond to international indicators.

## **Sri Lanka**

Sri Lanka has no conceptual framework for collection of educational statistics, although there is a framework for development of the education sector. Data needs are generally determined based on the needs and demand. Department

of Census and Statistics and Ministry of Education generally determine these kinds of data needs.

Main sources of educational attainment and Literacy Statistics are the census of Population and Housing (decennial) . Educational and Literacy Statistics are also collected quarterly through the Sri Lanka labor force survey. In addition, educational attainment of the school going population is collected through an Annual Census of schools which is conducted by statistics units of the Ministry of Education.

### **United States**

The framework for data collections by the National Center for Education Statistics (NCES) follows from a conceptual understanding of variables associated with supporting quality and equity in U.S. education. It is perhaps best illustrated through the organization of NCES' annual indicator report mandated by Congress, *The Condition of Education* report. The indicators shown in the report represent a consensus of professional judgment on significant national measures of the condition and progress of education.

The report includes indicators in six main areas: (1) enrolment trends and student characteristics at all levels of the education system, which describe the scope and involvement of the U.S. population in education; (2) student achievement and the longer-term, enduring effects of education; (3) student effort and rates of progress through the educational system; (4) the contexts of elementary and secondary education in terms of courses taken, teacher characteristics, and other factors; (5) the contexts of postsecondary education including staffing and other resources; and (6) societal support for learning, including parental and community support, and public and private financial support of education at all levels.

Data collected through institutional and household surveys, student and adult assessments, longitudinal studies, and international comparisons contribute indicators to this reporting. While most of the indicators are based on NCES surveys, data from the Bureau of the Census and other government sources are also used to provide a comprehensive picture of U.S. education.

## **Appendix E**

### **Mandates for international organizations that collect education data**

Information on the mandates that different international organizations have for collecting and reporting data were culled from websites, written documents, and the conducted interviews. The goal of these brief summaries is not to be comprehensive but to provide sufficient background so that the data collection priorities of each organization can be interpreted within the context of their mission, as well as their data collection and reporting mandates.

#### **UIS**

The UNESCO Institute for Statistics (UIS) is the statistical office of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and is the UN depository for internationally comparable statistics in the fields of education, science and technology, and culture and communication. The role of the UIS is to provide statistical information to Member States and international organizations in order to inform decision-making and facilitate democratic debate in UNESCO's areas of competence. UIS objectives include gathering a wide range of quality statistical data to help Member States analyze the efficiency and effectiveness of their programs and to inform their policy decisions; as well as reporting the global situation with regard to education, science and technology, culture and communication.

#### **OECD**

The purpose of the Indicators and Analysis Division in the OECD Directorate for Education is to produce and publish indicators and analysis on the operation, evolution, and impact of education; from early childhood, through formal education, to learning and training throughout life. The collected data covers the outputs of educational institutions, the policy levers that shape educational outputs, the human and financial resources invested in education, the structural characteristics of education systems, and the economic and social outcomes of education. The program of work for the OECD in education is set by its Education Committee, comprising Ministers of Education or their representatives from 30 Member countries.

Production of indicators on the financing of education, as well as participation in and graduation from education are collected through the UOE questionnaire. Indicators on educational attainment of the adult population and associated labor market outcomes, teacher salaries and work conditions, and instruction time are provided by INES Networks. The main publications are the annual publications *Education at a Glance* and *Education Policy Analysis*.

## **EUROSTAT**

EUROSTAT is the statistical office of the European Union. Education related activities include the production of statistical information on education and lifelong learning via specific sources of data on education and training systems, vocational training in enterprises, and adult learning. This information is complemented with relevant information coming from other sources which are not specific education collections, such as those covering areas like human capital, education and social inclusion, or transition from school to working life.

Indicators produced are used for the monitoring of progress and performance, including reports on progress towards the Lisbon objectives in education and training

## **World Bank**

The World Bank has no systemic program for collecting education data, although data might be collected within countries to meet monitoring roles. As noted above, individual projects are responsible for developing measures of outcomes/impact, although they are not required to collect data themselves. In some cases household surveys are sponsored (e.g., in the Living Standards Measurement Group), but these data collections are often targeted and non-recurring. For monitoring, individual projects make use of national data as well as international data.

The World Bank Development Data Group has been working with the International Household Survey Network centered at Paris 21 (the Partnership in Statistics for Development in the 21st Century), of which UIS and OECD are a part, to improve documentation of household surveys.

## **UNICEF**

UNICEF is guided by its Education Strategy and its 2006–2009 medium-term strategic plan (MTSP), as well as a number of international agreements, including the Convention on the Rights of the Child, the Millennium Development Goals, Education for All, and the World Fit for Children goals and targets. UNICEF's specific focus in education under the current MTSP is basic education and gender equality. Economic and social statistics on the countries and territories of the world, with particular reference to children's well-being, are published annually in the organization's flagship publication, *The State of the World's Children*. UNICEF does not have a mandate for data collection and recognizes the need to work with UIS. In the 1990's UNICEF created Multiple Indicators Cluster surveys to fill data gaps in health, nutrition, education, and HIV/AIDS. UNICEF trains data collectors (who are often in the National Statistical Office) during workshops. UNICEF recommends that NSOs work with officials in

the Ministry of Education (10 out of 110 indicators that come out of the surveys are on education), but this does not always happen.

### **UNDP**

UNDP is primarily a user of education statistics gathered by other agencies and uses UIS data for most indicators in the annual Human Development Report. The aim of the Human Development Report (HDR) is to stimulate global, regional, and national policy discussions on issues that are relevant to human development. Every year, alongside the Human Development Indicator Tables, which include most of Millennium Development Goal indicators, a thematic statistical analysis in the chapters of the HDR is presented.

### **UNSD**

The UN Statistical Division (UNSD) compiles and disseminates global statistical information, develops standards and norms for statistical activities, and supports countries' efforts to strengthen their national statistical systems. It is not directly responsible for collecting data on Agriculture (FAO), Employment (ILO), or Education (UIS) statistics. UNSD also serves as the Secretariat for the UN Statistical Commission, facilitating the coordination of international statistical activities and supporting the functioning of the UN Statistical Commission. UNSD is primarily a user of education statistics, although UNSD does collect information on enrolment and educational attainment from national statistical offices based on census data.

## Appendix F

### Education data requested by international organisations

Country responding: Australia

Includes all requests received in the period 1/9/2006 – 31/8/2008

Request Number	International organisation requesting data	Topic of request	Dept who received request	Co-ordination between several depts	Request part of regular data collection	Time needed *
1	OECD	Education and Earnings - 2006	DEST	No	Yes	
2	UNESCO	Educational Attainment	ABS	No	Yes	2
3	UNESCO	Literacy Statistics	ABS	No	Yes	N/A
4	OECD	TRANS - 2005	ABS	No	Yes	3
5	OECD	NEAC - 2005	ABS	No	Yes	3
6	OECD	TRANS - 2006	ABS	No	Yes	3
7	OECD	NEAC - 2006	ABS	No	Yes	3
8	OECD	Formal/Non-formal prior learning	DEST	No	No	4
9	OECD	Education and Earnings - 2007	DEST	No	Yes	N/A
10	OECD	Supply of skills	DEST	No	No	4
11	OECD	CDH Data Collection (Doctorate)	ABS	No	No	5
	OECD	Educational Attainment: Issues in comparability and a review of ISCED mappings		Yes	No	2
12			DEST			
13	OECD	TRANS - 2007	ABS	No	Yes	3
14	OECD	NEAC - 2007	ABS	No	Yes	3
15	OECD	Questionnaire Australia 2007	ABS	No	No	3
16	OECD	Thematic Review - Youth	DEST	No	No	4
17	UNESCO	Educational Attainment	DEEWR	No	Yes	3
18	UNESCO	Literacy Statistics	DEEWR	No	Yes	3
19	ILO	ILO Yearbook 2008	ABS	No	Yes	2
20	OECD	MTS2008 data collection	DEEWR	No	No	5
21	OECD	UOE 2008 Data Collection on Education Statistics	ABS	No	No	N/A
22	ILO	ILO Yearbook 2007	ABS	No	Yes	2
23	OECD	ANSKILL database creation	ABS	No	No	4
24	OECD	TRANS - 2007 Participation	ABS	No	No	3
25	OECD	TRANS - 2006 Participation	ABS	No	No	3
26	OECD	TRANS - 2007 Attendance	ABS	No	No	3
27	OECD	TRANS - 2006 Attendance	ABS	No	No	3
	UOE	UOE 2007 Data Collection on Education Statistics and Indicators		Yes	Yes	5
28			DEEWR			
	UOE	UOE 2008 Data Collection on Education Statistics and Indicators		Yes	Yes	5
29			DEEWR			
30	OECD/Network C	2007 Teachers and Curriculum survey	DEEWR	Yes	Yes	5
31	OECD/Network C	2008 Teachers and Curriculum survey	DEEWR	Yes	Yes	5
32	OECD/Network C	2007 Class sizes	DEEWR	Yes	Yes	5
33	OECD/Network C	2008 Class sizes	DEEWR	Yes	Yes	5
34	OECD/Network C	2007 Survey of decision making	DEEWR	Yes	No	5
35	OECD	2008 Survey on student mobility	DEEWR	No	No	4
36	OECD	2008 Survey on student loans	DEEWR	No	No	4
37	OECD	2008 Survey on first time graduates	DEEWR	Yes	No	4
38	APEC	2007 Survey of VET	DEEWR	Yes	No	3
39	OECD	2008 Thematic Review on migrant education	DEEWR	Yes	No	3
40	OECD	2008 Survey on careers of doctore holders	DEEWR	Yes	No	3
	OECD	2008 Survey on data availability on the socio-economic background of learners		Yes	No	2
41			DEEWR			
	UIS	2007 Survey on Information Communication Technology use in education		No	No	2
42			DEEWR			
	UIS	2008 Country review of 2005 & 2006 education data and indicators		No	No	3
43			DEEWR			
44	OECD/Network C	2007 Student Assessment	DEEWR	Yes	No	4
45	OECD/Network C	2007 School Evaluation	DEEWR	Yes	No	4
	CERI	2008 Survey on globalisation and linguistic competencies		Yes	No	3
46			DEEWR			
47	OECD	Regional Database	ABS	No	??	2

\*Key: 1 - Less than one person/hour; 2 - From one person/hour to one person/day; 3 - From one person/day to one person/week; 4 - From one person/week to one person/month; 5 - Several person/months



## Education data requested by international organisations

### Country responding: Brazil

Includes all requests received in the period 1/9/2006 – 31/8/2008

Request Number	International organisation requesting data	Topic of request	Dept who received request	Co-ordination between several depts	Request part of regular data collection	Time needed*
1	UIS	Survey of primary school (review preliminary tables for the report; review report; attend meetings meeting; national report)	Instituto Nacional de Estudos e Pesquisas Educacionais/ Coordenação de Estatísticas Internacionais (Coordination of International Statistics)	No	Yes	5
2	UIS	Additional WEI questionnaires to the UOE 2007 and UOE 2008 data collection (questionnaires ENTRL_4, GRAD_6 and	INEPE/CEI	Yes	Yes	4
3	UIS	Literacy Statistics Questionnaire 2008 (year of reference 2006) and Educational Attainment Statistics 2008 (year of reference 2006)	INEPE/CEI	Yes	Yes	3
4	OREALC/ UNESCO	Special Education Statistics (SIRNEE: first year of request: 2008)	Secretaria de Educação Especial (Secretariat for Special Education)	No	No	5
5	OECD/INES	UOE data collection (2007 and 2006: questionnaires, review EAG tables and text)	INEPE/CEI	No	Yes	5
6	OECD/INES	Teaching and Learning International Survey-TALIS (First wave: 2006-2009 – (translation of instruments, pilot of questionnaires, field trial, main study, and data entering; National Project Manager /National Data Manager meetings and BPC meetings)	INEPE/CEI	No	Yes	5
7	OECD	Programme of International Student Assessment--PISA (translation of instruments, field trial, main study, and data entering; National Project Manager /National Data Manager meetings)	Instituto Nacional de Estudos e Pesquisas Educacionais - Anísio Teixeira / Diretoria de Avaliação da	No	Yes	5
8	OECD/INES	Network C Data collection (2007 and 2008)	INEPE/CEI	Yes	Yes	5
9	OECD/INES	Network B Data collection (EARN- 2007 and 2008)	INEPE/CEI	Yes	No	4
10	MERCOSUL (Free Trade Market of the South, signed by Argentina, Brazil, Paraguay and Uruguay in 26/March/1991; associated countries: Bolivia, Chile and Venezuela)	Indicators (demographic, economic and educational)	INEPE/CEI	No	Yes	5

\*Key: 1 - Less than one person/hour; 2 - From one person/hour to one person/day; 3 - From one person/day to one person/week; 4 - From one person/week to one person/month; 5 - Several person/months

## Education data requested by international organisations

### Country responding: Canada

Includes all requests received in the period 1/9/2006 – 31/8/2008

Request Number	International organisation requesting data	Topic of request	Dept who received request	Co-ordination between several depts	Request part of regular data collection	Time needed*
1	Asia-Pacific Economic Cooperation (APEC)	APEC Policy Survey on the Teaching of English and Other Languages as a Foreign/Second Language	CMEC	Yes	Yes	4
2	APEC	Mathematics and Science Responses to 21 Century Survey: Primary and Secondary Education	CMEC	Yes	Yes	3
3	UNESCO/UNECE	Education for Sustainable Development	CMEC	Yes	Yes	5
4	UNESCO	Inclusive Education	CMEC	Yes	Yes	5
5	International Taskforce on Holocaust Education, Remembrance and Research	Holocaust Education	PCH	Yes	Yes	5
6	UNESCO	United Nations Literacy Decade: Progress Report	CMEC	Yes	Yes	5
7	Organization of American States (OAS)	Understanding the State of the Art in Early Childhood Education and Care: The First Three Years of Life				
8	OECD	Survey on National Policy Goals for Adult Learning	Statistics Canada	Yes	Yes	3
9	OECD	Public Spending Efficiency	Finance Canada	Yes	Yes	4
10	OECD	Survey on International Student Mobility	Statistics Canada	Yes	Yes	3

\*Key: 1 - Less than one person/hour; 2 - From one person/hour to one person/day; 3 - From one person/day to one person/week; 4 - From one person/week to one person/month; 5 - Several person/months

Note: In answering the question regarding whether the survey was planned or part of the ongoing data collections, Canada assumed that "planned" meant they had to prepare the data as opposed to submitting already existing data on the topic.