

Classifications *Newsletter*

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ISCED Review in progress

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Context

As the awareness of the role of education in developing individuals and in building societies and economies has grown, so has the demand for evidence on the impact of education and on how to improve the performance of national education systems. Policymakers increasingly look to cross-national comparisons to benchmark progress towards goals such as universal basic education and life-long learning. They also use indicators related to the efficacy, equity and efficiency of educational systems in other countries to inform their own efforts to enhance learning outcomes.

In response to this demand, UNESCO designed the International Standard Classification of Education (ISCED) in the 1970s to serve as an instrument for assembling, compiling and presenting education statistics both nationally and internationally. The ISCED was the first framework created to facilitate comparisons of education indicators across countries. It was approved at the International Conference on Education (Geneva, 1975), and referred to as ISCED 76.¹

By the mid-1990s, however, it was felt that improvements were needed to the ISCED classification to better capture new developments in education systems. As a result, the international community undertook to improve the conceptual framework and its implementation. These revisions were endorsed at the UNESCO General Conference at its 29th session in November 1997 and ISCED 97 was introduced.

The revised ISCED 97 classification reflected more diverse forms of vocational education and training, new types of education and learning providers, the growing trend of distance education and new technologies. While ISCED encompasses a variety of programmes and types

of education,² subsequent revisions have focused mainly on organised learning.

Although ISCED retained its two main axes for cross-classification - levels and fields of education - there were some modifications to the framework. The number of levels of education was reduced from 8 to 7. It included a new level (ISCED 4) to cover programmes which overlapped between upper secondary and tertiary education. Tertiary education was divided into two levels instead of three. The fields of education were increased to cover 25 categories compared to 21 in ISCED 76.

Upon the endorsement of ISCED 97, the international agencies responsible for compiling international education statistics data prioritized the implementation of the revised classification. These efforts have included regional education statistics workshops organized by the UNESCO Institute for Statistics (UIS), manuals and other materials produced by the OECD countries. The ISCED underpins the international education statistics produced by UIS, OECD and Eurostat, including efforts to monitor global progress towards Education for All (EFA) and the Millennium Development Goals (MDGs).

In the 2000s, the international agencies collaborated to identify and resolve issues that arose during the implementation of ISCED 97. At the UNESCO General Conference in October 2007, national authorities expressed their desire for the UIS to re-evaluate the ISCED in view of the changes that have taken place since the 1997 revision.³ The UIS will present recommendations for improving the conceptual framework of ISCED and its implementation, for approval by the UNESCO General Conference in 2011.

Rationale

After 10 years in use, the need to take a closer look at the ISCED has again become a priority. National authorities feel that ISCED should be updated to reflect major changes in the educational systems and address

¹ It was subsequently endorsed by UNESCO's General Conference (Paris, 1978).

² ISCED covers formal education, non-formal education, continuing education, distance education, open-education, life-long education, part-time education, apprenticeship, vocational training, etc.

³ UNESCO 34C/DR.25

difficulties related to its implementation, with special attention to higher education. The international agencies have also identified a number of issues related to the conceptual framework and its implementation both at the regional and global level.

Among the most common implementation problems faced by countries in mapping their system to the international standard are:

- a tendency to classify institutions instead of the programmes provided (e.g. Vocational Training Centres provide ISCED 4 and ISCED 5B programmes);
- assigning programmes to an ISCED level based on the name similarity between national education programmes and ISCED levels (e.g. “Post secondary education programmes” may actually include programmes offered at Junior Colleges, Institutes of Technical Education, Polytechnics, Institutes of Vocational Education, Teacher colleges);
- while the ISCED 4 category bears the label “post-secondary non-tertiary education”, this does not mean that all programmes in these institutions should be classified in ISCED 4;
- early childhood programmes may be combined, and include those that do not meet the criteria for the ISCED 0 level (pre-primary education).

There are also a range of conceptual issues that need to be addressed, including further clarification of existing definitions. Some conceptual problems may need a more extensive review and additional research.

Among the issues that require a more in-depth evaluation are:

- the classification of vocational or technical education programmes of two years (or more) in duration, that can be entered upon graduation from upper secondary education, is a good example of the need to further clarify the current classification criteria for ISCED levels 4 (Post-secondary non-tertiary education) and 5B (First stage of tertiary education which does not lead to an advanced research qualification and which may be specific to a profession). Further work is needed to better differentiate between these two levels so that countries can assign them accurately to either level and in a consistent way across countries.
- the current definition of ISCED 4 is vague and employs terms such as “straddling the boundaries” and “not significantly more advanced” to define programmes classified at this level. The lack of clarity in its definition has led to the inclusion of many types of programmes at this level including: vocational programmes or institutions considered as post-secondary

in the country in question, pre- university programmes that are followed by very few students graduating from secondary schools to have access to tertiary education, programmes for adults who wish to return to university and programmes delivered in institutions perceived as ‘separate’ from the regular education system.

- changes in the structure of the educational systems, such as the extension of basic education to ISCED 0 (pre-primary) or ISCED 3 (upper secondary);
- the restructuring of early childhood educational programmes that challenges the current view of what constitutes ‘education’ at the ISCED 0 level;
- changes in higher education in Europe may not be reflected accurately in the current tertiary levels (ISCED 5 and 6).

Untangling implementation problems from conceptual issues is a necessary yet challenging task as is illustrated by the changes in the higher education in Europe.

Ongoing discussions on this issue have focused on deciding whether to resolve these issues through better implementation of the current ISCED criteria (ISCED 5A and 5B), through a new structure of ISCED or through changes in the data collection instruments.

Review strategy

The review will comprise four main activities:

1. Determining the scope of the review

The scope of the review will be based on issues that have been identified through discussions with regional stakeholders and partner organizations such as OECD and Eurostat. Thus, during this exploratory stage, work will examine current definitions and classification criteria and determine if revisions to the overall structure or new conceptual definitions are necessary. To this end, the UIS will form an ISCED Technical Advisory Panel to provide guidance on the review strategy, to take part in consultations, assist in targeting research, as well as to assist in the implementation of the recommendations.

The Technical Advisory Panel will reflect a diverse composition with regard to geographical representation, familiarity with ISCED and its use, experience with education statistics and knowledge on curriculum content across countries.

2. Conducting regional and expert consultations for the production of draft recommendations

Regional and expert technical consultations are a crucial stage in this process as it is only through the

understanding of regional needs and the active role of experts that the full breath of issues can be addressed. Emerging issues since 1997 include the spread of the “Basic Education” concept, greater focus on structured early childhood education, higher levels of required teaching qualifications and more flexibility for adult learning. These issues, and others raised in the context of regional consultations, will require the expertise and advice of domain specialists so that sound recommendations on improvements to the ISCED can be made.

A first regional meeting has taken place in September 2008. Before the motion for a review of ISCED was accepted by the UNESCO General Conference in November 2007, UIS, OECD and Eurostat had already convened to organize this ISCED seminar to discuss issues to improve the comparability of international education statistics. These discussions focus on clarifying differences between ISCED levels 5A and 5B programmes and how changes in the higher education programmes resulting from the implementation of the Bologna Process will be mapped in the ISCED. Other topics include the relationship between the orientation and destination dimensions at levels 2, 3 and 4, not to mention improving the definition of ISCED 4.

Other regional meetings will be carried out in collaboration with UNESCO Regional Offices and a wide range of regional experts and stakeholders. Discussions will aim to ensure that any proposed recommendations respond to regional needs. In addition to identifying existing problems, these meetings will explore regional educational reforms and changes in the structure of the educational systems since 1997 that could affect their representation in the ISCED framework. The meetings will also address any other emerging issues. Experts from the ISCED Technical Advisory Panel will be invited to take part in these regional meetings.

3. Distribution of an interim progress report and its review at the UNESCO General Conference in 2009; formal consultation of Member States and validation of final recommendations; adoption of recommendations during the UNESCO General Conference in 2011.

It is expected that an interim report will provide an assessment of the implications of the changes proposed to the ISCED classification as well as their feasibility in terms of implementation.

The proposal for the review or revision of ISCED will be sent for formal consultation to all Member States and partner organizations prior to its submission for approval to the UNESCO General Conference in 2011.

4. Communicating results

The key to the success of this process is to have an efficient communication strategy. To this end, the UIS will carry out the following initiatives:

- present ongoing ISCED review work at international meetings such as the World Conference in Higher Education, the UNSD Classification meetings and in other fora;
- establish an ISCED website where information on ongoing activities will be made available on a regular basis;
- disseminate the final recommendations globally to inform users on the implications of these changes for the international comparability of education statistics.

Expected outputs and timeline

2008

- a) Preparation of a document(s) summarizing all issues (resolved and unresolved) along with a recommendation for possible topics for the review and regional consultations. This will be circulated among countries, experts and international agencies.
- b) Commission papers on key issues identified in this above-mentioned summary document(s). The UIS welcomes offers of collaboration in the production of in-depth technical papers on key areas of ISCED that will feed into the review process. These will be linked to regional meetings and to the ISCED Technical Advisory Panel, who will also be asked to help guide the selection of key issues.
- c) Draft Agenda for regional ISCED meetings to be held in 2009.
- d) Convene first meeting of the ISCED Technical Advisory Panel.

2009

- a) Publish interim progress report.
- b) Conduct regional meetings: publish reports documenting meeting results; submit to the ISCED Technical Advisory Panel.
- c) Compile draft recommendations.
- d) Present ISCED review work on tertiary education in a panel at the World Conference in Higher Education and the UNSD Classification meeting.

2010

- a) Undertake formal world-wide consultation among Member States and partner organizations.

- b) Process results of the formal consultation and production of final draft.
- c) Validate the final recommendations by the ISCED Technical Advisory Panel.

2011

- a) Translation of the final recommendations.
- b) Submit for approval at the General Conference in last quarter of 2011.
- c) Communication of recommendations to Member States.

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Transition to ISIC REV. 4 – the Brazilian case

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The Brazilian Standard Industry Classification (CNAE) was developed in the mid-1990s as a classification derived from ISIC Rev. 3. CNAE has kept the structure of ISIC Rev. 3 at the section and division levels and has introduced additional categories at the three- and four-digit levels. A fifth level of subclass was defined for the specific use of public administration agencies. In 2002, CNAE's structure was updated after the release of ISIC Rev. 3.1.

The implementation of CNAE, starting in 1995 and lasting through the following decade, has been a challenging undertaking. By 2006, the National Statistics Institute (IBGE) already had all statistics related to economic activity based on CNAE. The revision of National Accounts, base-year 2000, has completed the implementation cycle of CNAE in the statistical system. Additionally, CNAE subclasses have been consolidated as the standard industry identification codes adopted in public administration business databases in all three levels of the political-administrative structure of the country - union, state and county levels.

The extensive use of CNAE has certainly brought strong gains in quality and articulation to Brazilian industry statistics as well as to its public administration business databases.

Taking this background into account, the 2007 revision of ISIC presented a new challenge.

It is well known that the transition to a new version of an industrial classification poses a number of significant issues for statistical agencies and users of the statistics as well as for other users of the classification. In the case of Brazil, the extensive use of CNAE reinforced the complexity of such a transition operation. A primary concern was the maintenance of the gains achieved from the implementation of CNAE as a national standard classification. This article aims to briefly describe how Brazil has been dealing with these challenges.

CNAE 2007 revision

The discussion of issues relating to CNAE's revision started at the National Classification Commission⁴ as soon as the ISIC 2007 revision discussions were commenced by the Expert Group on International Social and Economic Classifications, at the beginning of the current decade. At the national level, there was agreement on the need for the CNAE revision - updating of its structure to align it with the forth-coming version of ISIC – as international harmonization was considered a high priority. A main concern was to ensure a synchronized calendar for the transition to the new version of the national classification, involving all users, in order to maintain the benefits of the national standardization.

IBGE, as the custodian of CNAE, took the leadership role in the revision work. This work was carried out through an extensive consultation process with the users of the classification, including internal users, public administration agencies and business organizations. Public Administration agencies have had a special role in the specification of the subclasses. The structure and the content of CNAE 2.0 are the outcome of a long series of consultations started in 2003.

The CNAE 2007 revision, resulting in Version 2.0 of the classification, had the following main objectives: the updating to ISIC Rev. 4, with revision of the detailed categories at the group and class levels, in order to better reflect Brazil's industry structure and respond to users' demands and at the subclass level, better adjustment to public policy requests.

The CNAE structure is organized into 21 sections, 87 divisions (this does not include ISIC Rev. 4 Division 98 – Undifferentiated goods- and services-producing

⁴ The National Classification Commission (CONCLA) is an inter-institutional forum for deliberation on questions related to standard classifications used in statistics production and in public administration databases. It is composed of representatives from fifteen ministries. IBGE is the head of CONCLA.

activities of private households for own use), 285 groups, 673 classes and 1301 subclasses. This structure was officially approved in September 2006.

As a classification derived from the ISIC Rev. 4 industry classification, the most relevant alterations of CNAE 2.0 concern those changes that had been adopted in the international classification. New concepts introduced at the top levels, along with new detail created in response to recent analytical requests or to reflect newly emerging industries have resulted in significant changes in CNAE's structure. Nevertheless, as far as possible, the categories of CNAE 2.0 were defined with the same content as in the previous version in all the areas not requiring change. This way, in the CNAE structure at the class level, 70% of the categories in the previous version have a direct correspondence, that is, they correspond to a single code in Version 2.0. At the subclass level where the units are classified in public agency databases – the proportion is 90% of such categories.

Transition challenges

The revised CNAE version provides a modern statistical infrastructure for the analysis of the current economy. Its implementation nevertheless represents a complex and expensive project. Particularly, it represents the first experience in the country, with an overall synchronized transition process, to a new version of a national standard industry classification. Three main concerns have guided the strategies adopted for the CNAE 2.0 implementation:

- a) the guarantee of a synchronized transition to CNAE 2.0 throughout the system, for maintaining the benefits of standardization of industry codes;
- b) the continuity of the time series, for maintaining its analytical content;
- c) the transparency of the implementation process – making certain that users received prior communication regarding any changes that were being implemented and the implementation schedule and maintaining an open communication channel to facilitate user clarifications.

The first step towards a synchronized transition was the agreement on a coordinated CNAE 2.0 implementation calendar involving on one side the various statistical domains referring to CNAE within IBGE and, on the other, the various public administration agencies at the three political-administrative levels (union, state and county) which are adopting CNAE subclass codes in their databases.

Implementation of CNAE 2.0 in public administration databases

The implementation of CNAE's latest version was first done in public administration databases. The role of the National Classification Commission, in particular that of the Sub Commission Group, convening representatives from the public administration agencies, was critical to the definition of the CNAE 2.0 implementation calendar executed by those agencies.

Starting in January 2007, new businesses have been coded according to the CNAE 2.0 subclass level at the National Register of Legal Entity, under the guidance of the Union Tax Authority of Brazil. At the same time, the industry codes of all other units in the Register were converted to the Version 2.0. At the state and local government level, the tax agencies have followed the same path, implementing the new codes during the first semester of 2007. Other state and local government agencies, maintaining business registers for various purposes, have undergone the same process. Out of the tax area, at the Union level, the business databases of the Labour Ministry, the Social Welfare Ministry, the Sanitary Surveillance and many others have adopted the new version of CNAE from January of 2007, undertaking the necessary adjustments to guarantee the continuity of the time series data in their own systems.

To help CNAE's users in the transition to the new version, IBGE has developed a set of support instruments (correspondence tables, studies of the cases with correspondence involving more than one category and, in these cases, the definition of priority codes). Additionally, IBGE supports an open communication channel for assisting users with clarifications.

Implementation calendar in the statistical system

A synchronized calendar for CNAE 2.0 transition was defined covering all IBGE statistical domains referring to CNAE and taking into account the interdependence between the different surveys, with the aim of adopting the new classification as soon as possible. Work was started in 2007, with the Business Register migration to the 2.0 version, and will last until 2013, when the National Accounts data referring to CNAE 2.0 on the revised series in base year 2010, will be released.

The changes in CNAE have a strong impact particularly on business registers, on the design of the enterprise surveys and on the dissemination processes of economic statistics. In addition, some work needs to be done to reconstruct the statistical series on the new basis.

A first step was the updating to CNAE 2.0 of IBGE's Business Register, during 2007. On one side, the CNAE 2.0 migration was carried out with the help of the correspondence tables and the use of data at the product level from IBGE's business surveys. In addition, the Business Register was updated with administrative data covering the universe of business units already coded in CNAE 2.0. The main source is the annual labour registration completed by all legal units during the first quarter of the year, with regard to their labour situation in the previous year. In the 2007 form, relating to base year 2006, the units were asked to provide their industry code using CNAE 2.0 subclasses. In January 2008, the IBGE Business Register had its 5.7 million active legal units classified according to both versions of CNAE. The Business Register is supposed to maintain the double coding of the units for at least two years.

IBGE was initially critical of the CNAE code coming from the administrative data that feeds its Business Register, which had been self-coded by enterprises and which had more recently taken advantage of their economic survey data, establishing direct consultation with enterprises and using the methodology known as Computer Assisted Telephone Interview (CATI). This method was first used in the migration to CNAE 2.0 for units from the business surveys that were classified in CNAE's codes with a 1:n correspondence. However the experience was successful and its incorporation in the current Business Register program will improve its quality.

The subsequent step, now in progress, concerns the CNAE 2.0 implementation in IBGE annual business surveys covering manufacturing, mining, construction, commerce and non-financial services activities. The decision to first do the transition in the annual business surveys has taken into consideration the role of their data as parameters for the construction of the economic monthly indicators.

In the annual business survey system, 2007 will be the transition year to the new CNAE version. Taking into account the requirements for continuity in the statistical time series, it was decided that the 2007 business surveys should be able to release data referring to both CNAE versions, thus demanding a special sample design. At the moment, the 2007 business surveys – in the new sample design – are in the concluding phase of their collection operation.

The data dissemination strategy for the 2007 business surveys involves two steps in the release of data in the first semester of 2009, where under the usual schedule

the 2007 data will be released in CNAE 1.0. In 2010, the 2007 and 2008 data will be released together, in the CNAE 2.0 version.

The CNAE 2.0 implementation calendar foresees the release of the economic monthly indicators in the new CNAE version starting from 2011.

In the area of economic surveys, which is particularly affected in the transition to a new industry classification, work has been moving forward satisfactorily but there are still a number of significant issues demanding solution. Attention needs to be given to backcasting statistical series on the new basis. CNAE changes at the top levels of the classification - adopting the ISIC Rev. 4 structure for instance - affects the scope of the set of business surveys organized by IBGE as well as the scope of the economic monthly indicators, causing additional work in the reconstruction of the historical series.

The CNAE 2.0 transition calendar in the agriculture area has benefited from the Agriculture Census operation held in 2007. Statistics on farm establishments coded according to the CNAE 2.0 will be released in March, 2009.

In the case of household surveys, the CNAE 2.0 version will first be used in the 2010 Population Census. Afterwards, in 2011, the IBGE's current household surveys, on an annual and monthly basis, should do the same. For the coding of economic activities in the household survey system, IBGE uses an adapted structure of CNAE detailing the class categories according to the coding possibilities of activity descriptions provided by households.

The CNAE 2.0 implementation calendar foresees the conclusion of the whole transition process in 2013, when data on revised National Accounts will be released.

This brief summary of the chronology of the CNAE 2.0 transition, presented above, shows the extent of the process and gives an idea of Brazil's efforts towards a synchronized transition process. In each domain where the application is implemented there are a number of significant issues demanding specific solutions. In some cases, implementation has already been affected, while in others responses are still in progress. The time lag between the release of the first statistics according to CNAE 2.0 and the production of all statistics according to the same version may cause some difficulty for users. A dissemination strategy will need to be defined in order

to reduce these inconveniences. There is still a large body of work to be accomplished in this area.

Publications

The International Standard Classification of All Economic Activities (ISIC), Rev. 4 is now available in electronic format and as a printed publication in English, (Sales No. E.08.XVII.25). Translation into other official United Nations languages is in progress. It can be ordered through the United Nations Sales Section by e-mail: publications@un.org or by facsimile at: 1 212 963 3489, or purchased online at: <https://unp.un.org/>, under “statistical products”. Other documentation relating to the newly released classification, such as correspondence tables, can be accessed at the United Nations Classifications Website at <http://unstats.un.org/unsd/cr/registry/isic-4.asp>.

Editorial note

The Classifications Newsletter summarizes recent developments in the field of international classifications, announces upcoming events and draws attention to the availability of relevant classifications material in print and on the Internet. The Classifications Newsletter can be found at the United Nations Classifications Website <http://unstats.un.org/unsd/class> under “Newsletter”.

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