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**IMPLEMENTATION OF THE INTERNATIONAL
STANDARD CLASSIFICATION OF EDUCATION (ISCED):
CHALLENGES AND SOLUTIONS FORWARD**

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ABSTRACT

This paper reviews the UIS data collection and quality assurance on the International Standard Classification of Education (ISCED). It presents the most common issues about countries use of ISCED 2011 on the classification of national educational programmes (ISCED-P) and educational attainment (ISCED-A), and of ISCED F 2013 on the classification of fields of education and training over the past ten years or so of implementation and proposes solutions forward. The paper also presents an overview of the implementation of ISCED-T following its adoption by UNESCO General Conference in 2021, and the main results achieved so far.

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1. Introduction

The International Standard Classification of Education (ISCED)¹ is a comprehensive framework that facilitates the transformation of national education data into internationally agreed categories that make cross-national comparisons possible. The UNESCO Institute for Statistics (UIS) is the custodian of ISCED and responsible for its development and maintenance. The UIS is also responsible for providing guidance on the effective and consistent use of ISCED for data collection and analysis.

The ISCED family classifications includes ISCED 2011 on the classification of national educational programmes (ISCED-P) and educational attainment (ISCED-A), ISCED-F 2013 classification of fields of education and training, and ISCED-T 2021 classification of teacher training programmes and related qualifications.

What is important to know about the UIS ISCED data collection and quality assurance? What are the most common issues noticed with countries implementation of ISCED 2011 and ISCED-F 2013 and what are the solutions forward?

2. The UIS ISCED data collection and quality assurance

The UIS runs annual data collection in UNESCO Member States using ISCED questionnaire pre-filled with the most recent available information on national education programmes and sending the pre-filled questionnaire to countries for review, update and validation². When the questionnaire is returned by the countries, the UIS processes the submission, and works with each country to validate the information collected before publishing them on UIS website³ in the form of ISCED mapping. ISCED data collection and cleaning for countries belonging to the Organisation for Economic Co-operation and Development (OECD) and to European Union non-OECD, is carried out by OECD and Eurostat. The so-called UNESCO-OECD-Eurostat (UOE) data collection on ISCED 2011 use the ISCMAP which is the equivalent of ISCED questionnaire for the UOE countries.

Both questionnaires collect data on free and compulsory education from ISCED 0 to ISCED 3, and on information required for mapping national education systems to ISCED 2011 educational programmes (ISCED-P) and to ISCED 2011 educational attainment (ISCED-A). ISCMAP collect additional information including, information on qualifications outside the scope of UOE, on old qualifications from programmes that no longer exist, on metadata on Early Childhood Education and Care (ECEC) – especially ECEC programmes that meet ISCED 0 criteria, and other ECEC services that are not covered by ISCED 2011 classification.

For quality assurance of survey operations, the UIS produces clear instructions guidelines for data collection exercises, like UIS Instruction Manual for Survey of Formal Education (see <http://uis.unesco.org/uis-questionnaires>), and UNESCO-OECD-Eurostat (UOE) data collection manual 2022. The Institute also produces, jointly with OECD and Eurostat, an Operational Manual on ISCED 2011 providing guidelines for classifying national education programmes and related qualifications.

¹ See the annex 1 about the historical chronology in the development of ISCED.

² The latest UIS country specific pre-filled ISCED questionnaires are accessible online at : <http://uis.unesco.org/uis-questionnaires>

³ <http://uis.unesco.org/en/isced-mappings>

In terms of production of the ISCED 2011 mapping, the data reported by countries via the ISCED 2011 questionnaire are used to draft the ISCED-P and ISCED-A mappings to the classification which are reviewed and approved, collaboratively with each country. ISCED 2011 mappings are 'approved' before countries start using them to report education data internationally. In terms of work flow, ISCED 2011 mappings for UOE countries are assessed by OECD, Eurostat, and the UIS before being 'approved'. For non-UOE countries, the draft mappings are assessed by UIS prior to 'approval'.

From operational point of view, OECD consult UIS on technical questions regarding ISCED when this is necessary to validate some modifications in existing programmes for specific UOE countries. When the 'clean' and 'final' version of the ISCEMAP questionnaire is produced, OECD/Eurostat notify UIS. For non-UOE countries, the validation of ISCED mappings are carried out jointly between the UIS regional staff (based in UIS HQs), the UIS field staff, and the country.

The process of collaborative validation of ISCED mappings for UOE countries between UIS, OECD, and Eurostat dated back to the start of the implementation of ISCED 2011. This co-validation work is also reflected in the annual education indicators review and validation exercise carried out by UIS and OECD, usually between July and August, prior to the UIS data release of September.

The UIS also takes the opportunity of webinars, education workshops, and site visit to countries to review and update ISCED mappings, and to discuss any pending ISCED issues with the relevant national officials. ISCED 2011 Operational Manual⁴ presents the typical ISCED issues that countries can encounter during the classification exercise of their national education programmes and provides guidelines and recommendations on how to classify these programmes in ISCED.

The ISCED mapping questionnaire contains a wealth of unexploited data that could be used to gain a better understanding of countries' educational systems, especially commonalities and differences in the structure and characteristics of education systems.

3. Most common issues noticed by UIS or reported by countries about the use of ISCED 2011 and ISCED-F 2013

A. Issues noticed about the use ISCED 2011

In reference to the definitions, guidelines and recommendations provided in ISCED 2011 manual and operational manuals, many national education programmes are currently not properly classified according to ISCED, or are classified but not in an harmonised manner across countries.

For the *first category of issues*, educational programmes not classified in the correct level of ISCED, the main cause pertains to the fact that these programmes generally lack information on their principal characteristics (entry requirements, duration, orientation, qualification awarded, etc), preventing from a decisive classification into the correct level of ISCED. Issues related to this cause are not intrinsic to ISCED. And as a standard action, the UIS systematically follow up with the countries to get complete information, when available, in order to suitably classify the programmes in ISCED. The means used for follow up include bilateral technical training, webinars, education workshops, or site visits to countries.

⁴http://uis.unesco.org/sites/default/files/documents/isced-2011-operational-manual-guidelines-for-classifying-national-education-programmes-and-related-qualifications-2015-en_1.pdf

Ten years after the launch of ISCED 2011, it can also be presumed that this group of issues would also include programmes that emerge from new/recent developments in education systems, for which the characteristics or related fields of education are not appropriately captured in ISCED 2011, and hence may not be properly classified.

The *second category of issues* includes education programmes where sufficient information on their characteristics exist but the main and subsidiary criteria⁵ used for classification by level of education are applied differently across country. This issue persists in many countries. Part of the causes is related to the complexity of these programmes and to countries (mis)interpretation of the criteria used to classify them by level of ISCED.

Based on the information gathered by UIS through ISCED data collection and quality assurance of national ISCED mappings, an inventory of most common issues according to these two categories has been prepared. Tables 1 and Table 2 present the main typical issues in ISCED mappings and their prevalence among the Member States.

⁵ Main criteria indicate necessary characteristics of education programmes at the respective ISCED level. Subsidiary criteria indicate characteristics shared by many – but not all – education programmes at the ISCED level.

Table 1: Educational programmes that cannot be classified in the correct level of ISCED because the programmes generally lack information on their principal characteristics

Typical issue	Typical examples and comments (1. Issue with ISCED concepts/definitions or classification criteria, 2. lack of sufficient information on the program characteristics, 3. Improve country training/collaboration, 4. political reasons)	Estimated number of countries affected or related thematic brief
Classification of programmes that span two levels of ISCED	Integrated Early Childhood Education programme (see paragraph 109 of ISCED 2011 Manual).	About 10 countries (mostly OECD countries)
	Programme spanning ISCED 1 and ISCED 2.	Mostly in countries with ‘basic education’ system (In about 10 countries)
	Programmes spanning ISCED 3, 4 and 5.	Mostly in some former Soviet Union countries
	Comments (2. and 3.): research of stages in the combined programmes (and their characteristics in terms of duration, age group, qualifications, etc...) that could be used to delimitate the programmes and classify them.	
Wrong classification of a programme in an ISCED level	Programmes without educational component and providing only child daycare (e.g. only supervision, nutrition, and health) classified as ISCED 0	Mostly home-based day care programmes – this issue is considered prevalent in many countries but prevalence at global level is yet to be known, as, unless in UOE countries, the availability of metadata on ECEC programmes is limited.
	ISCED 3 programmes classified as ISCED 4 (e.g. A-level programmes in some countries)	About 25 countries, mostly with anglo-saxon type of education system.
	ISCED 4 programmes classified as ISCED 5	Common in countries with college-university bridging (TVET) programmes, mainly in sub-Saharan Africa.
	Long first degrees at Master level classified as long first-degrees at Bachelor level	See annex 2: “The classification of long first degree education programmes at ISCED 6 and ISCED 7 (ISCED 666 and 766 programmes) varies across countries”
	Second degree programme at Bachelor level classified at Master level.	Prevalent especially in middle to low income countries with programme with intermediate qualifications from the successful completion of stages of a 1 st programme at ISCED 7 which are insufficient for ISCED 7 completion.
	Comments (2., 3., or 4.): collaborate with the country to classify the programme at the appropriate level of ISCED based on the programme characteristics and ISCED classification guidelines.	
Programme orientation at tertiary levels 6, 7, and 8 (academic VS professional)	With respect to ISCED 2011 manual (see paragraph 53), “ ISCED 2011 does not yet define academic and professional more precisely for higher ISCED levels, but opens up the possibility of distinguishing academic and professional orientations in the future based, for example, on fields of education. At ISCED level 5, the definitions of general and vocational education will be used until definitions of academic and professional have been developed.” Comments (1.)	Applies to nearly every country with tertiary level education programmes.

Table 2: Education programmes where sufficient information on their characteristics exist but the main and subsidiary criteria used for classification by level of education are applied differently across country.

Typical issue	Typical examples and comments (1. Issue with ISCED concepts/definitions or classification criteria, 2. lack of sufficient information on the program characteristics, 3. Improve country training/collaboration, 4. political reasons)	Estimated number of countries affected or related thematic brief
Long tertiary first degrees classified differently by countries: some in ISCED 6 and some in ISCED 7.	Some engineering, architecture and medical studies classified as ISCED 6 in a country and as ISCED 7 first-degree in another. Comments (2., 3.): Discuss with each country to ensure that the programmes are classified in a harmonized way in the appropriate level of ISCED based on the programmes characteristics and ISCED classification guidelines.	See annex 2: "The classification of long first degree education programmes at ISCED 6 and ISCED 7 (ISCED 666 and 766 programmes) varies across countries"
Classification of short post-secondary programmes: borderlines between ISCED 3 & ISCED 4 in one hand and between ISCED 4 and ISCED 5 on the other hand difficult to draw for countries.	Classification of A-level programmes in some countries (with 'Anglo-saxon' type education system) as ISCED 4 (in the Caribbean region and some countries in Africa), and as ISCED 3 (in the UK) - are different.	About 25 countries, mostly with anglo-saxon type of education system
	Post-secondary Programmes designed to 'review' the content of ISCED level 3 programmes. Comments (2., 3.): Discuss with each country to ensure that the programmes are classified in a harmonized way in the appropriate level of ISCED based on the programmes characteristics (complexity, purpose, duration, etc.) and ISCED classification guidelines.	Prevalent especially in middle to low income countries with bridging programmes, second chance programmes, or enhancement programmes preparing learners for examinations to enter university.
Second or further degree for specialization (following successful completion of a Bachelor's or equivalent programme): some countries might classify it as ISCED 7.	Business administration for engineers or specialisation in environmental aspects for chemical engineers. Comments (2., 3.): Discuss with each country to ensure that the programmes are classified in a harmonized way in the appropriate level of ISCED based on the programmes characteristics and ISCED classification guidelines.	Prevalent especially in middle to high income countries.

B. Specific issues about ISCED-F 2013 reported by countries

Table 3 presents the issues reported by countries regarding the use of ISCED-F and their suggestion of change to the classification.

Table 3: Issues identified regarding ISCED-F and suggestions of changes to address them

Issue	Change suggested
The Field "03 Social sciences, journalism and information" needs revision to reflect the growing importance of this academic field.	Expand the field by adding to it a new component – "international relations"
Insufficiently accurate classification coverage of the categories "Economy" and "Economics", to address the three levels of the economy: the	- Correct the title of the Broad field "04 Business, administration and law" by adding "04 Economy, business, administration and law". Or, considering that business is a component of economy, call this Broad field "04 Economy, administration and law". Accordingly, in the Narrow field, replace "041 Business and administration" with "041 Economy, business and

<p>movement of goods and services (economy), the movement of money (finance), and the purposeful combination of these processes (administration).</p>	<p>administration" or with "041 Economy and administration". Add "Economy and business" to the detailed field, emphasizing the inextricable connection between business and the economy and the fact that business is the implementation of economic processes.</p> <p>- In the Detailed field of the Narrow field "031 Social and behavioural sciences", insert the social science "Jurisprudence".</p>
<p>The description of the detailed field "0111 Education Science" is not fully formed and does not include other main directions of the field of education, namely: Education Administration, Education Policy, Education Leadership, Education Technologies and other fields, besides for Teacher Education (e.g. studying the teaching-learning process and the theories, methods and techniques of knowledge transfer to others).</p>	<p>- Change the description of the Field "0111 Education Science" to reflect the following: "Education Science is the study of the learning process theories, methods and techniques of imparting knowledge to others. Also, it studies education policy, educational leadership, and administration."</p> <p>- Add the following fields of study to the detailed field "0111 Education Science": Educational Science, Education Policy, Education Leadership, Education Administration, Education Philosophy, Education Sociology, Education Anthropology, Education Economics, Education Psychology, Education Technologies and Innovations, International Education, Lifelong Learning, Vocational education and Training".</p>

C. Availability of ISCED 2011 mappings (by SDG regions)

The latest UIS database (UIS September 2023 release) includes 201 country-approved ISCED 2011 mappings.

SDG regions	Number of countries	Number of ISCED 2011 published mappings	Coverage (%)
Central and Southern Asia	14	14	100
Eastern and South-Eastern Asia	18	16	89
Europe and Northern America	48	48	100
Latin America and the Caribbean	42	34	81
Northern Africa and Western Asia	24	24	100
Oceania	17	17	100
Sub-Saharan Africa	48	48	100
Total	211	201	95

- Countries with incomplete ISCED 2011 mapping: Democratic People's Republic of Korea, Myanmar, Nicaragua, Puerto Rico, Saint Kitts and Nevis, Sint Marteen, Trinidad and Tobago.
- Countries with ISCED 1997 mapping only: Dominica, Haiti, and Paraguay.

D. Implementation of ISCED-T 2021

The main results achieved in the implementation of ISCED-T since its adoption in November 2021 included the publication of ISCED-T Manual in the six United Nations languages⁶, the pilot survey of ISCED-T, a series of trainings to Member States on the classification and how to apply it for data collection, and a proposal of a global standard on teacher qualification by level of education taught, expected to help improve concepts and measures related to teacher qualification, and contribute to policy dialogue on the quality of teachers. The global data collection on ISCED-T is planned to start in 2024.

ISCED-T 2021 aims to help address the currently poor international data collection of teachers and to aid with the issues of coverage and definitions that are hampering the availability of comparable data on teachers qualification needed for the monitoring of the Sustainable Development Goal target 4.c: *“By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States”*.

4. Agenda forward

A. ISCED Committee

To support the governance of ISCED, the ISCED 2011 Manual recommends, that *“An ISCED Committee should be formed in order to advise UIS regarding the classification of national programmes and qualifications, to review the current version of ISCED and to identify potential areas for further development, although ISCED revisions are not expected to be within its remit [...]”* (see <https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf>, p.23).

Consistently with this recommendation, the UIS has established an ISCED Committee (<https://isced.uis.unesco.org/isced-committee/>) which is currently working to review the current version of ISCED 2011 and ISCED Fields of Education and Training 2013 in light of 10 years stock-take implementation, and identify potential areas for further development of the classifications. The Committee includes education and classification experts from International Organisations and UNESCO Member States. It is balanced both technically and geographically and reflects different types of education systems that exist globally.

Unresolved broad ISCED 2011 classification issues for consideration to the ISCED Committee include:

- The classification in ISCED 2011 of home schooling: under which conditions home schooling is considered as formal education that can be classified in ISCED 2011?
- Could some early childhood programmes intended for children aged 3 or 4 be classified as ISCED 01? Under which condition?
- How to define academic and professional programmes for ISCED 6-8?

The recommendations of the ISCED Committee are expected by mid-2024.

⁶ The ISCED-T manual can be accessed via the [UIS ISCED microsite](#) and the [UNESCO Digital Library](#).

B. Training and technical support to countries on ISCED

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

- Programmes in ISCED 2 and 3 at partial level completion;
- Classification of programmes that span two ISCED levels;
- Classification of long first-degree programmes at ISCED 6 and ISCED 7 levels (e.g Argentina classifying medical programmes of 6 years as ISCED 766 but Colombia classifying them as ISCED 666. Also some countries in the former USSR classifying first-degrees of 5 years-duration as ISCED 766 whereas in other countries these programmes are classified as ISCED 666);
- Second or further degree for specialization (following successful completion of a Bachelor's or equivalent programme): some countries might classify it as ISCED 7.

Annex 1: Chronology in the development of ISCED

The International Standard Classification of Education (ISCED) is as an instrument for assembling, compiling and presenting education statistics both nationally and internationally. Historical chronology of related UNESCO work started in late 1950s with UNESCO recommendation on classifying education programmes. In 1970s, UNESCO designed the ISCED which 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 76.⁷

By the mid-1990s, ISCED 76 was revised to better capture new developments in education systems worldwide, including improvements to 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 1997 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 education⁸ 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.

In 2007, the 34th session of the UNESCO General Conference affirmed UIS efforts for a systematic review of ISCED 1997 to reflect changes in education systems since 1997, improve existing concepts and definitions, address gaps in the classification, improve the implementation of ISCED, and submit a revised ISCED standard for approval by the UNESCO General Conference in 2011.

The revision focuses on changes to the levels of education programmes (ISCED-P) and introduces, for the first time, a classification of levels of educational attainment based on qualifications (ISCED-A). Changes to the classification levels aim to recognize the expansion of early childhood education and restructuring of tertiary education. New features also include: i) the introduction of educational qualifications as a related statistical unit alongside the education programme; ii) three-digit coding schemes for the levels of education programmes and educational attainment; iii) a section on ISCED governance, and iv) an expanded glossary, with improved definitions for types of education and clarification about their application to ISCED.

ISCED 2011 was adopted by the UNESCO General Conference at its 36th session in November 2011. At the same session, the General Conference adopted a Resolution to review the 1997 ISCED Fields of education to take into account changes in the Fields of education worldwide. The revision prioritized

⁷ It was subsequently endorsed by UNESCO's General Conference (Paris, 1978).

⁸ ISCED covers formal education, non-formal education, continuing education, distance education, open-education, life-long education, part-time education, apprenticeship, vocational training, etc.

conceptual and implementation issues. It led to [ISCED-F 2013](#) which was adopted by the UNESCO General Conference at its 37th session in 2013.

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Annex 2: Number and percentage of countries with published ISCED 2011 mappings offering tertiary long first degree programmes at ISCED 6 and ISCED 7 (ISCED 666 and 766 programmes), by SDG regions.

Number of countries with published mappings by region offering programmes at selected ISCED levels	Published ISCEDs	ISCED 665	ISCED 666		ISCED 667		ISCED 766			ISCED 767			ISCED 768
		3, 4 years	5 years	6 years	1 year	2 years	4 years	5 years	6 and + years	1 year	2 years	3 and + years	Any duration
Central and Southern Asia	14	14	5	1	5	1	0	5	5	2	13	0	6
Eastern and South-Eastern Asia	16	15	8	2	8	2	0	2	7	3	15	6	1
Northern America and Europe	47	47	4	3	18	13	6	27	24	24	45	9	23
Latin America and Caribbean	34	31	14	8	6	3	0	3	10	9	25	8	5
Northern Africa and Western Asia	24	24	12	0	15	3	0	6	22	3	23	3	2
Oceania	16	15	2	0	5	3	0	0	0	0	9	2	2
Sub-Saharan Africa	47	47	21	3	24	3	0	9	18	14	41	5	5
World	198	193	66	17	81	28	6	52	86	55	171	33	44

Percentage of countries with published mappings by region offering programmes at selected ISCED levels*	ISCED 665	ISCED 666		ISCED 667		ISCED 766			ISCED 767			ISCED 768
	3, 4 years	5 years	6 years	1 year	2 years	4 years	5 years	6 and + years	1 year	2 years	3 and + years	Any duration
Central and Southern Asia	100%	36%	7%	36%	7%	0%	36%	36%	14%	93%	0%	43%
Eastern and South-Eastern Asia	94%	50%	13%	50%	13%	0%	13%	44%	19%	94%	38%	6%
Northern America and Europe	100%	9%	6%	38%	28%	13%	57%	51%	51%	96%	19%	49%
Latin America and Caribbean	91%	41%	24%	18%	9%	0%	9%	29%	26%	74%	24%	15%
Northern Africa and Western Asia	100%	50%	0%	63%	13%	0%	25%	92%	13%	96%	13%	8%
Oceania	94%	13%	0%	31%	19%	0%	0%	0%	0%	56%	13%	13%
Sub-Saharan Africa	100%	45%	6%	51%	6%	0%	19%	38%	30%	87%	11%	11%
World	97%	33%	9%	41%	14%	3%	26%	43%	28%	86%	17%	22%

*: Variability across SDG regions in the classification of ISCED 666 and ISCED 766 programmes (programmes with duration of 5 years or 6 and + years):

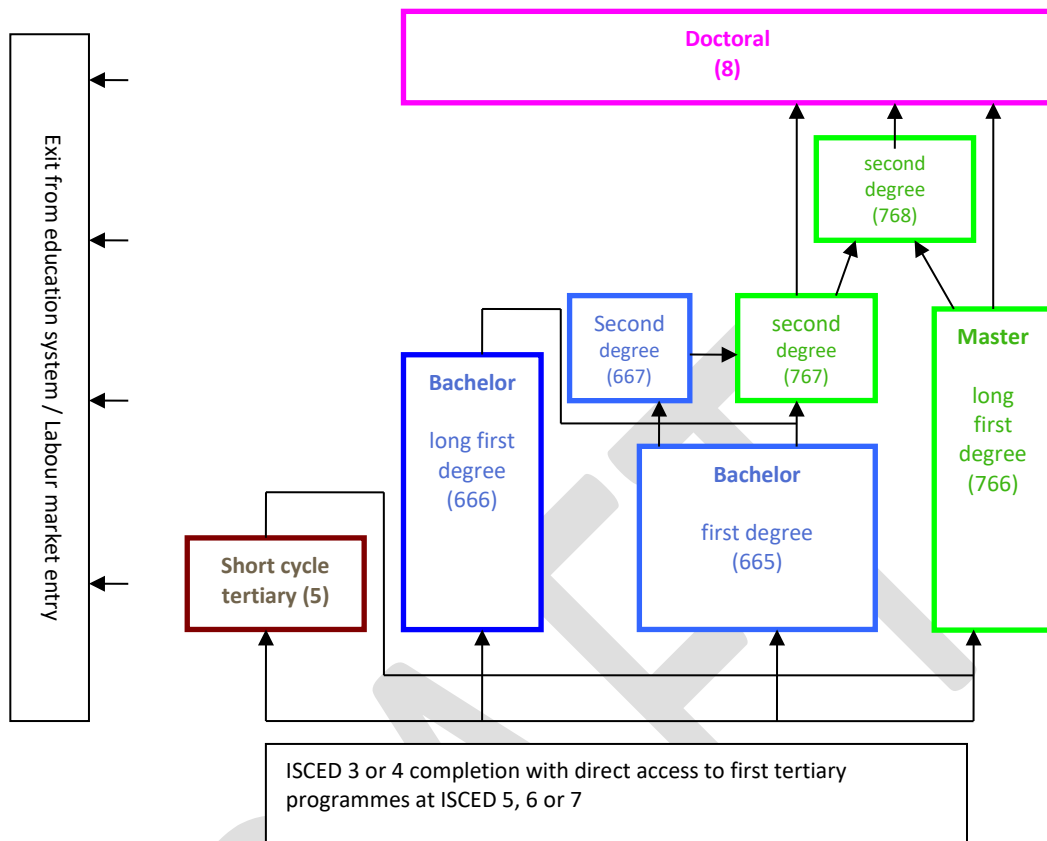
- Programmes with 5 years duration: In Northern America and Europe, the majority of countries with published mappings classify these programmes as ISCED 766. The opposite is observed in the other regions, except in Central and Southern Asia where an equal proportion of countries (36%) classify these programmes as ISCED 666 or ISCED 766.

- Programmes with 6 and + years duration: in SDG regions with published mappings, these programmes are mostly classified as ISCED 766. Across SDG regions, LAC has the highest proportion of countries (24%) where these programmes are classified ISCED 666 (instead of ISCED 766, 29%). In Northern Africa and Western Asia, all these programmes (92%) are classified ISCED 766.

Tertiary education pathways in ISCED (from ISCED Manual, paragraph 206)

For ISCED levels 6 and 7, there are four sub-categories:

- First degree/qualification programme – bachelor or equivalent
- Long first degree/qualification programme – bachelor (>4 years) or master (≥5 years), or equivalent
- Second or further degree/qualification programme – following a bachelor or equivalent programme
- Second or further degree/qualification programme – following a master or equivalent programme



Useful links to ISCED documents

- ISCED 2011 Manual: <https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf>
- ISCED Fields of education:
 - o <https://uis.unesco.org/sites/default/files/documents/isced-fields-of-education-and-training-2013-en.pdf>
 - o <https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-fields-of-education-and-training-2013-detailed-field-descriptions-2015-en.pdf>
- ISCED Operational Manual: http://uis.unesco.org/sites/default/files/documents/isced-2011-operational-manual-guidelines-for-classifying-national-education-programmes-and-related-qualifications-2015-en_1.pdf
- ISCED microsite: <https://isced.uis.unesco.org/>
- UIS questionnaires for the survey of formal education: <http://uis.unesco.org/uis-questionnaires>