

The International Standard Classification of
Education (ISCED-97):
Application to country-specific
educational qualifications
and implementation in cross-national surveys

Silke Schneider

Nuffield College, University of Oxford

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Cross-national Measurement of Educational Attainment

Years of education

time spent in the educational system

- ▶ actual: explicitly measured
- ▶ 'virtual': derived from country-specific categorical education variable

Scoring

ordering and pseudo-distance between original categories relative to some outcome

ISCED, CASMIN

categories for educational qualifications or certificates coded into a common framework based on core characteristics of educational systems

The ISCED-97 Levels of Education

Seven ordinal levels of educational attainment:

Level 0: Pre-primary education

Level 1: Primary education or first stage of basic education

Level 2: Lower secondary education or second stage of basic

Level 3: Upper secondary education

Level 4: Post-secondary non-tertiary education

Level 5: First stage of tertiary education

Level 6: Second stage of tertiary education

The ISCED-97 Sub-dimensions within Levels of Education

These levels are subdivided according to . . .

Type of destination (Levels 2, 3, 4, 5):

A, B and sometimes C, e. g.

- ▶ ISCED 2B: programmes designed to prepare students for direct access to programmes at Level 3C.
- ▶ ISCED 3A: programmes at Level 3 designed to provide direct access to ISCED 5A. ▶ Transition Pattern

Programme orientation (Levels 2, 3 and 4):

general, pre-vocational and vocational

Programme duration (Level 5):

short, medium, long and very long

Position in the national degree structure (Level 5):

first, second, third and further degree

Application of the ISCED–97 to country-specific Data

How are country-specific education categories to be reliably translated into ISCED categories?

- ▶ co-ordination between the OECD and national statistical offices
- ▶ production and provision of mapping tables
- ▶ regular updating of mappings for European countries guided by Eurostat

ISCED-97 level	Programme orientation	Cumulative duration at ISCED 5	Position in the national degree/qualification structure (Intermediate, First, Second, etc.)	Notes on programmes that span across ISCED levels or sub-categories	Descriptive name of the programme	Main diplomas, credentials or certifications	Typical starting ages
France							
0					Enseignement préélémentaire (pre-school education)		2-3
1					Enseignement primaire (primary education)		6
2A	G			2A, 2B	Enseignement du premier cycle du second degré – Collège (secondary education (1st cycle))	BREVET	11-12
3					Enseignement de troisième de collège de type général	BAC, Brevet Professionnel	15-16

Theoretical length of the programme	Typical length of the programme	Cumulative years of education at the end of the programme	Minimum entrance requirement	Programme specifically designed for part-time attendance	Reported in the UOE	Enrolment 1996-97	Other relevant information
3-4	3					2450000	Pre-school classes are attached to primary comprehensive schools.
5	5	5				4000000	Compulsory for 6-year-olds.
4	4-5	9	1			3360000	Compulsory education, although all students do not complete this programme. It leads to general, vocational and technical education.
4-5	4-5	4-5				4000000	4-year contract lasting between 2 and 24 months.

Current Limitations in the Application of the ISCED-97

Problems in the production of the mappings:

- ▶ unclear definitions in the ISCED-97
- ▶ disputable mappings

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Problems in the application of the mappings:

- ▶ comparability across time
- ▶ lack of consultation of the ISCED-97-mappings
- ▶ no guidelines on how to deal with uncertified education
- ▶ shortcomings of national data collection instruments

Enhancement of country-specific measures I

Most important: procure *detailed* country-specific instruments

- ▶ separate response categories for different qualifications, even if nationally regarded as 'equivalent'
- ▶ coverage of outdated qualifications in separate categories
- ▶ coverage of uncertified education/dropout in all countries
- ▶ differentiate according to tracks/final marks if country has an integrated school system

Enhancement of country-specific measures II

Even better: include *educational careers and transitions*

- ▶ not ask for highest level of attainment only, but *all qualifications held*
- ▶ include temporal order of achieving different qualifications

Some co-ordination across countries could be helpful for developing state-of-the-art measures for all countries.

A1: Which of the following educational qualifications do you hold? Please number all that apply in the order in which you completed them (column A).

	A		B
None	<input type="text"/>	→ Go to 'A2' below	X
[Qualification corresponding to ISCED 2C]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 2B]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 2A]	1		<input type="text"/>
[Qualification corresponding to ISCED 3C]	2		<input type="text"/>
[Another qualification corresponding to ISCED 3C]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 3B]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 3A]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 4C]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 4B]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 4A]	3		<input type="text"/>
[An outdated qualification corresponding to ISCED 4A]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 5B]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 5A 1 st and medium]	4		<input type="text"/>
[Qualification corresponding to ISCED 5A 2 nd and medium]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 5A 1 st /2 nd and long]	<input type="text"/>		<input type="text"/>
[Qualification corresponding to ISCED 6]	<input type="text"/>		<input type="text"/>

A2: If "none" at item A1: Did you complete...

[Primary education/the first stage of basic education]?

[Lower secondary education/the second stage of basic education]?

B: Which qualifications did you study for, without acquiring the final certificate? Please tick all that apply (column B above).

Enhancement of the ISCED–97

- ▶ clearer definition of ‘programme destination’
- ▶ no priority of ‘programme destination’ over ‘programme orientation’
Thus distinguish 3Ag, 3Av, (3Bg,) 3Bv, (3Cg,) 3Cv rather than only 3A, 3B and 3C (similar at levels 2 and 4)
- ▶ differentiation of heterogeneous categories:
 - 3Ag: mix of traditional and restricted university entrance qualifications
 - 5A: mix of university and polytechnic college degrees
- ▶ re-organisation of post-secondary levels

Implementation in cross-national Surveys

Common procedure:

1. if ex-ante output harmonisation: cross-national framework specified before data collection
2. data collection with country-specific instruments
3. recoding into cross-national framework (centrally co-ordinated or decentralized).

Implementation in cross-national Surveys

Common procedure:

1. if ex-ante output harmonisation: cross-national framework specified before data collection
2. data collection with country-specific instruments
3. recoding into cross-national framework (centrally co-ordinated or decentralized). If ISCED-97, a simplified version used:
 - ▶ ISCED-97 main levels only (ESS)
 - ▶ ... plus partial sub-dimension 'programme destination', but changes over time
 - ▶ PISA (0, 1, 2, 3A, 3B/C, 4, 5A, 5B, 6)
 - ▶ EU-LFS (0, 1, 2, 3A/B, 3Cs, 3CI, 4A/B, 4C, 5A, 5B, 6)

Result: crude, inflexible data.

Table: R^2 s from regressing ISEI scores on country specific education variables (absolute), ISCED and years of education (relative).

country	ESS round	n of cat's	country specif.	ISCED 7 cat's	ISCED 6 cat's	years of educ.
Czech Republic	1	11	46.7			
	2	11	51.1			
Germany	1	20	45.7			
	2	20	43.9			
Italy*	1	7	46.0			
	2	8	44.8			
Netherlands	1	13	36.7			
	2	13	36.5			
United Kingdom*	1	8	31.7			
	2	5	31.2			
average/total		11	42.1			
min		5	21.8			
max		20	61.3			

Table: R^2 s from regressing ISEI scores on country specific education variables (absolute), ISCED and years of education (relative).

country	ESS round	n of cat's	country specif.	ISCED 7 cat's	ISCED 6 cat's	years of educ.
Czech Republic	1	11	46.7	—		
	2	11	51.1	—		
Germany	1	20	45.7	58.4		
	2	20	43.9	60.4		
Italy*	1	7	46.0	—		
	2	8	44.8	—		
Netherlands	1	13	36.7	88.3		
	2	13	36.5	87.4		
United Kingdom*	1	8	31.7	81.1		
	2	5	31.2	—		
average/total		11	42.1	85.4		
min		5	21.8	58.4		
max		20	61.3	100.0		

Table: R^2 s from regressing ISEI scores on country specific education variables (absolute), ISCED and years of education (relative).

country	ESS round	n of cat's	country specif.	ISCED 7 cat's	ISCED 6 cat's	years of educ.
Czech Republic	1	11	46.7	—	67.2	
	2	11	51.1	—	69.1	
Germany	1	20	45.7	58.4	49.7	
	2	20	43.9	60.4	55.8	
Italy*	1	7	46.0	—	94.8	
	2	8	44.8	—	94.9	
Netherlands	1	13	36.7	88.3	88.0	
	2	13	36.5	87.4	86.3	
United Kingdom*	1	8	31.7	81.1	78.5	
	2	5	31.2	—	—	
average/total		11	42.1	85.4	83.3	
min		5	21.8	58.4	49.7	
max		20	61.3	100.0	100.2	

Table: R^2 s from regressing ISEI scores on country specific education variables (absolute), ISCED and years of education (relative).

country	ESS round	n of cat's	country specif.	ISCED 7 cat's	ISCED 6 cat's	years of educ.
Czech Republic	1	11	46.7	—	67.2	73.0
	2	11	51.1	—	69.1	80.8
Germany	1	20	45.7	58.4	49.7	72.4
	2	20	43.9	60.4	55.8	72.0
Italy*	1	7	46.0	—	94.8	97.6
	2	8	44.8	—	94.9	84.8
Netherlands	1	13	36.7	88.3	88.0	60.8
	2	13	36.5	87.4	86.3	61.4
United Kingdom*	1	8	31.7	81.1	78.5	74.8
	2	5	31.2	—	—	58.3
average/total		11	42.1	85.4	83.3	77.6
min		5	21.8	58.4	49.7	47.2
max		20	61.3	100.0	100.2	98.6

Suggestions for implementing the ISCED-97

Proposed procedure:

1. data collection with highly detailed country-specific instruments (see above proposal)
2. harmonisation: centrally co-ordinated recoding into most detailed cross-national framework (full ISCED-97, including all sub-dimensions)
3. simplification: recoding into less detailed cross-national variable for actual statistical analyses
 - ▶ centrally: 'all purpose' education variable; compromise between detail and usability
 - ▶ locally: individual researchers can derive purpose-built variables from the full ISCED-97, adequate for their research questions

Summary and Conclusions

For improving the cross-national measurement of educational attainment using categorical (certificate-oriented) variables, we need

- ▶ detailed high quality country-specific education variables
 - ▶ implementation of detailed comparable variables in cross-national surveys
 - ▶ a clearly defined cross-national coding framework with a high ability to discriminate different educational qualifications.
- Next revision of the ISCED?

Thank you!

This presentation builds on
Schneider, Silke L. (Ed.) 2008: The International Standard
Classification of Education (ISCED-97). An Evaluation of Content
and Criterion Validity for 15 European Countries. Mannheim:
MZES.

