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Measuring fields of education and training in cross-national surveys

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This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 654221.



Motivation

- Education is a key socio-economic variable, covered in virtually every survey
 - Apart from educational qualifications, fields of education are covered more and more
- ❖ Educational qualification -> vertical axis





Main ISCED-A Levels 2011

ISCED level 0 – Early childhood education

ISCED level 1 – Primary education

ISCED level 2 – Lower secondary education

ISCED level 3 – Upper secondary education

ISCED level 4 – Post-secondary non-tertiary education

ISCED level 5 – Short-cycle tertiary education

ISCED level 6 – Bachelor's or equivalent level

ISCED level 7 – Master's or equivalent level

ISCED level 8 – Doctoral or equivalent level





Motivation

- Education is a key socio-economic variable, covered in virtually every survey
 - Apart from educational qualifications, fields of education is covered more and more
-
- ❖ Educational qualification -> vertical axis
 - ❖ Fields of education -> horizontal axis





Broad fields (1st level) of ISCED-F 2013

00 Generic programmes and qualifications

01 Education

02 Arts and humanities

03 Social sciences, journalism and information

04 Business, administration and law

05 Natural sciences, mathematics and statistics

06 Information and Communication Technologies (ICTs)

07 Engineering, manufacturing and construction

08 Agriculture, forestry, fisheries and veterinary

09 Health and welfare

10 Services





Why are fields of education important?

- Gender segregation in fields of education (Jonsson 1999, Bradley 2000, Charles & Bradley 2008)
- Social selection into fields of education by family background:
 - ❖ Social class, cultural and economic capital of parents (van de Werfhorst et al. 2003)
 - ❖ Domain of father's occupation (van de Werfhorst, Luijkx 2010)





Tasks of SERISS WP8 – Fields of education and training

- Development of a survey tool to ask for fields of education and training
- By which we receive a codable answer
- Extension of the CAMCES database by fields of education and training





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Short excursion on CAMCES



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CAMCES so far

- CAMCES tool for measuring and coding educational attainment in cross-cultural surveys
- Components of the CAMCES tool:
 - ❖ CAMCES question module
 - ❖ CAMCES survey interfaces:
 - Combination Box (CB), including algorithm for textstring matching
 - Search Tree (ST)
 - ❖ CAMCES/SERISS education database





Combination Box (CB) – Italy

Educational Qualification

What is your highest educational qualification?

- Please enter the qualification in Italian.
- Please do not type the subject area or your occupation.
- Please select the best match.



Laurea di 1° livello o Laurea di 3 anni

Diploma di Laurea, 4-6 anni [vecchio ordinamento]

Diploma di specializzazione post laurea magistrale, 1-2 anni

Diploma di specializzazione post laurea magistrale, 3-4 anni

Laurea magistrale, 5-6 anni

Laurea specialistica



Search Tree (ST) – Russian Federation

Educational Qualification

What is your highest educational qualification?



- ▶ Вообще не учился в школе, незаконченная начальная школа
- ▼ **Аттестат об основном общем образовании**
 - Аттестат об основном общем образовании, 7 классов [по системе до 1958 года]
 - Аттестат об основном общем образовании, 8 классов [по советской системе 60-80-х годов]**
 - Аттестат об основном общем образовании, 9 классов [по современной системе]
- ▶ Начальное или среднее профессиональное-техническое образование или на базе основного общего образования
- ▶ **Аттестат о законченном среднем общем образовании**
- ▶ Начальное или среднее профессиональное-техническое образование или на базе полного среднего
- ▶ Высшее образование



Search Tree (ST) - Iraq

Educational Qualification 

What is your highest educational qualification?



- لم يذهب إلى المدرسة
- أقل من شهادة التعليم الابتدائي
- شهادة التعليم الابتدائي
- شهادة التعليم المتوسط
- شهادة التعليم الإعدادي
- شهادة التعليم المهني
- معهد فني
- جامعة
 - درجة بكالوريوس (4 سنة)
 - درجة بكالوريوس (5 سنة)
 - بكالوريوس الطب (6 سنة)
 - دبلوم عالي
 - درجة ماجستير
 - درجة دكتوراه



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Measuring and classifying fields of education and training



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What are fields of education and training?

- “A field is the broad domain, branch or area of content covered by an education programme or qualification” (UNESCO-UIS, 2014, p. 5)
- Fields of education are not defined within levels of education, they are independent of levels (e.g. teacher training programmes on different levels)
- Translation of fields of education and training is possible





What is ISCED-F?

- International Standard Classification of Education - Fields of Education and Training (ISCED-F)
- Developed by UNESCO, last updated in 2013
- Units: Educational programmes
- Focus on secondary, post-secondary and tertiary level
- Separate classification (independent from ISCED-A)
- Classification consists of 3 digits/levels:
 - ❖ 1st level: 11 entries
 - ❖ 2nd level: 29 entries
 - ❖ 3rd level: \approx 80 entries





Broad fields (1st level) of ISCED-F 2013

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10 Services





Further classifications on fields of education

- ISCED 1997 (also includes field of education)
- Australian Bureau of Statistics Classifications of Qualifications (ABSCQ) 1993 and Australian Standard Classification of Education (ASCED) 2001
 - Used for further development by Eurostat
- European Union's Fields of Training (FoT) 1997 and Fields of Education and Training (FoET) 1999
 - FoET is widely-used incl. international surveys
 - FoET used as starting point for updating ISCED-F
 - Large overlap on the categories of FoET and ISCED-F





Broad Fields of Education and Training (FoET) 1999

0 General programmes

1 Education

2 Humanities and arts

3 Social sciences, business and law

4 Sciences

5 Engineering, manufacturing and construction

6 Agriculture

7 Health and welfare

8 Services





FoET 1999

- 0 General programmes
- 1 Education
- 2 Humanities and arts
- 3 Social sciences, business and law
- 4 Sciences
- 5 Engineering, manufacturing and construction
- 6 Agriculture
- 7 Health and welfare
- 8 Services

ISCED- F 2013

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FoET 1999

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 - FoET is widely-used incl. international surveys
 - FoET used as starting point for updating ISCED-F
 - Large overlap on the categories of FoET and ISCED-F
- Fields of Science and Technology (FoS) 2007
 - Not used for updating ISCED-F





Relation to other classifications

- ISCED11-A Orientation of Programme
- ❖ General: those programmes should be classified as “Generic programmes and qualifications” in ISCED-F
- ❖ Vocational: those programmes should be ‘easily’ classified to the main field of education and training in ISCED-F
- International Standard Classification of Occupations (ISCO) 2008
- ❖ ISCO: Focus on job and its tasks/ duties based on skill level and specialisation
- ❖ ISCED-F: Focus on subject of education programme
- No direct link between ISCED-F and ISCO





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Example questions



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What is the main subject area of your highest qualification?

01 General programmes

02 Teacher training and education science

03 Humanities, languages and arts

04 Social sciences, business and law

05 Science, mathematics and computing

06 Engineering, manufacturing and construction

07 Agriculture and veterinary

08 Health and welfare

09 Services

Source: PIAAC round 1





In which one of these fields or subjects is your highest qualification?

01 General or no specific field

02 Art – fine or applied

03 Humanities – languages, classics, history, theology, etc

04 Technical & engineering, including architecture and planning, industry, craft, building trades, etc

05 Agriculture & forestry

06 Teacher training or education

07 Science, mathematics, computing, etc

08 Medical, health services, nursing, etc

09 Economics, commerce, business administration, accountancy, etc

10 Social & behavioural studies, public administration, media, culture, sport and leisure studies, etc

11 Law and legal services

12 Personal care services - catering, domestic science, hairdressing, etc

13 Public order and safety – police, army, fire services, etc

14 Transport and telecommunications

Source: ESS round 4





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Discussion



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Summary

- Classification of ISCED-F is exists, not yet implemented
- A lot of surveys still use FoET 1999
- Often use broader categories (like ISCED-F 1st level)
- Surveys adapt a classification for their own purposes





Challenges

We want to use ISCED-F,

but how?

- How many digits of ISCED-F do we want to cover?
- Adaptation of proposed search tree of ISCED-F:
 - ❖ make it more user-friendly
 - ❖ more cognitive intuitive for respondents
- Do we want to consider further classifications like FoET 1999?





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Thank you!

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