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SERISS (Synergies for Europe's Research Infrastructures in the Social Sciences) aims to exploit synergies, foster collaboration and develop shared standards between Europe's social science infrastructures in order to better equip these infrastructures to play a major role in addressing Europe's grand societal challenges and ensure that European policymaking is built on a solid base of the highest-quality socio-economic evidence.

The four-year project (2015-'19) is a collaboration between the three leading European Research Infrastructures in the social sciences – the European Social Survey (ESS ERIC), the Survey of Health Ageing and Retirement in Europe (SHARE ERIC) and the Consortium of European Social Science Data Archives (CESSDA AS) – and organisations representing the Generations and Gender Programme (GGP), European Values Study (EVS) and the WageIndicator Survey.

Work focuses on three key areas: Addressing key challenges for cross-national data collection, breaking down barriers between social science infrastructures and embracing the future of the social sciences.

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Executive summary

In addition to respondents' highest educational qualification, some surveys also collect data on their main field of education. Current measurement practice involves either a closed question with highly aggregated response categories, which are difficult to use for respondents, or an open question, requiring expensive post-coding. Therefore, a measurement tool for fields of education was developed in the SERISS-project in work package 8, Task 8.3. In deliverable D8.9 we provide a database of fields of education and training in 34 languages, including the definition of a search tree interface to facilitate navigation of categories for respondents. All 120 standard categories and classification codes are taken from UNESCO's International Standard Classification of Education for Fields of Education and Training (ISCED-F). For most languages, detailed 3-digit information is available. The database, including a live search feature, is available at the surveycodings website at https://www.surveycodings.org/fields-education-and-training. The search tree can be used for respondents' self-identification of fields of education and training in computer-assisted surveys. The live search feature can also be used for post-coding open answers in already collected data.

1   Introducing SERISS and Deliverable D8.9

Synergies for Europe's Research Infrastructures in the Social Sciences (SERISS) is a four-year project that aims to strengthen and harmonise social science research across Europe (2015-'19). work package 8 (WP8) of SERISS aims to provide cross-country harmonised, fast, high-quality and cost-effective coding of open-ended questions on respondents' occupations, industries and education into international standardized classification systems, and to develop a tool to collect standardized social network information, as described in SERISS Annex 1 (European Commission, 2015). Occupation, industry, employment status, educational attainment and field of education are core variables in many socio-economic and health surveys. In addition, the size and intensity of social networks are key variables in social surveys. However, their measurement, especially in a cross-cultural, cross-national and longitudinal context, is cumbersome, not sufficiently standardized and often expensive. This work package takes recent scientific and technological developments as an opportunity to improve this situation for the benefit of survey measurement quality and to provide cost-effective solutions to Research Infrastructures by developing a survey module with the related survey questions and the databases for answering these questions.

This report concerns Task 8.3 "Compile the API-database of educational attainment and field of education" of WP8 (for details on how the API itself works, see Martens, 2018), here the focus is on fields of education. The responsible partner is ESS ERIC (GESIS- Leibniz Institute of the Social Sciences); partners are SHARE ERIC (CentERdata).

Task 8.3 results in four deliverables:
- D8.9 Database of field of education for 34 languages
- Explanatory note on this database (focus of this report)
- D8.8 Database of educational attainment
- Explanatory note on this database (see Schneider & Ortmanns, forthcoming 2019)

Deliverable D8.14 already provided the phrasing for the survey question "What is your main field of education?". The accompanying database provided the translations of this question for 47 languages (Tijdens, 2016).

1.1   Outline of Deliverable D8.9
This report concerns deliverable D8.9. The objective of this deliverable was to develop a database of fields of education and training for 34 languages. The main output of D8.9 is a database of fields of education for 34 different languages, including many European languages as well as Russian, Standard Chinese, Arabic, Hindi and Bahasa.

This report accompanies the fields of education database, which is downloadable as an excel file from the website https://www.surveycodings.org/fields-education-and-training. The file is called **educationfields_ISCED_F_for_API_v1_2019-07-05_SERISS_del**.

1.2   What are Fields of Education and Training?
Fields of education and training are domains, branches or areas of content that are covered by an education programme or qualification (UNESCO-UIS, 2014, p. 5). In contrast to levels of education, fields of education describe the subject specialisation of educational programmes and qualifications. Fields of education and training are thus defined across education levels, and, their classification is independent from the classification of educational levels. The same field, for instance health or education, can exist at several levels. In turn, at most and especially higher education levels, a large number of different fields of education are offered. This is also indicated by the term "horizontal differentiation" within educational

levels, of which field of education and training is an important element next to institutional differentiation (e.g. college type and quality) (Gerber & Cheung, 2008). Some fields however may only exist for specific levels of education.

The term 'education' here refers to both general or academic as well as vocational or professional education. The concept is thus broader than the closely related concept "field of study", which only applies to academic disciplines in higher education, but for reasons of brevity, we will use the term "fields of education" synonymously with "fields of education and training".

1.3   The Relevance of Fields of Education in Social Science Research

Fields of education and training are an important topic in several areas of Social Science research, such as labour market research, social and gender inequality research. In labour market research, returns to or correlates of fields of education (Darmody, Smyth, & Unger, 2008; Giesecke & Schindler, 2008; Reimer & Noelke, 2008) as well as (mis-)match between field of education and occupation or industry (Verhaest & Sellami, 2017) are important topics. Studies in social inequality research show that selection into fields of education is influenced by gender and social background, predominantly fathers' occupation (Reimer & Pollak, 2010; Van de Werfhorst & Luijkx, 2010; Van de Werfhorst, Sullivan, & Cheung, 2003). However, one study also shows that choice of field of study does not have an impact on social mobility, over and above the effect of educational attainment (Jackson, Luijkx, & Pollak, 2008). Research on gender inequalities shows that, despite comparable levels of academic achievement, women are under-represented in 'hard' sciences such as maths and physics and instead predominantly study the arts and humanities (Bradley, 2000; Bradley & Charles, 2009; Jonsson, 1999; Smyth & Steinmetz, 2008). This segregation to some degree explains the gender income gap (Bobbitt-Zeher, 2007) because the returns to female-dominated fields are lower than the returns to male-dominated fields.

2 Asking about Fields of Education and Training in a Survey

Almost all social sciences surveys ask respondents about their highest educational level. Given the more limited relevance of fields of education compared to level of education, asking about the subject or the field of the respective educational programme is done more rarely, especially in cross-national surveys. In socio-economic surveys, it is an important survey question though, so that national labour force surveys, Eurostat's "Adult Education Survey" (AES) or OECD's "Programme of the International Assessment of Adult Competencies" (PIAAC) do regularly cover it.

Some strongly input-harmonized cross-national surveys ask respondents about the main subject of their highest qualification using highly aggregated categories corresponding to the first digit of the ISCED fields of education (see section 3.2). This is done for instance in the "Programme of the International Assessment of Adult Competencies" (PIAAC) cycle 1[1], in round 2 (2004), round 3 (2006), and round 4 (2008) of the "European Social Survey" (ESS).[2] Using highly aggregated fields of education as response categories is problematic because it basically leaves a highly demanding coding task to the respondent (and, if available, interviewer). Respondents will likely think of more detailed subjects and specifications such as midwifery, car mechanics, Romance philology or communication studies. Such a questionnaire item is thus highly burdensome and resulting data quality unclear.

More output-harmonized cross-national surveys like the Adult Education Survey (AES) and the European Labour Force Survey (EU-LFS) do not prescribe how to measure fields of education. Some countries in the AES use aggregated response categories that can be recoded into ISCED-F, while others use an open question and post-coding. In the latter case, Austria for example makes use of a Thesaurus. The German "Mikrozensus" (from which the German part of the EU-LFS is drawn) also uses an open question. Thereby the diversity and high level of specificity of vocational oriented programmes are better accommodated. However, while less burdensome for respondents and interviewers, using an open question goes along with a need for post-coding which is expensive and cannot be demanded of all participating countries in international surveys. Yet other countries, e.g. Spain in the AES, use a national look-up list, which comes close to the idea behind surveycodings.

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[1] Some countries in PIAAC Cycle 1 however decided to use an open question and post-coding instead, which was accepted by the international consortium (in Cycle 2, all countries will need to ask the closed question, but can additionally ask an open question for national purposes).

[2] Since round 5 (2010), the ESS does not measure fields of education any more.

3 Classifying Fields of Education and Training

3.1 Overview of Classifications on Fields of Education and Training

The 1976 version of the International Standard Classification of Education (ISCED) defined fields of education within levels of education, so that there was not yet an independent classification of fields. An early classifications to distinguish between different subjects and fields of education across levels was developed in 1993 by the Australian Bureau of Statistics: The Classifications of Qualifications (ABSCQ) (Australian Bureau of Statistics., 1993). They updated their classification in 2001 to the *Australian Standard Classification of Education* (ASCED) (Australian Bureau of Statistics., 2001). An international classification for fields of education was developed as part of *ISCED 1997* (UNESCO, 2006) with 9 broad and 25 narrow fields, using two hierarchical digits. Building on this classification, Eurostat and Cedefop developed the *European Union's Fields of Training (FoT)* 1997 (Eurostat, 1999) and *Fields of Education and Training (FoET)* (Andersson & Olsson, 1999). It extended ISCED 97 by a third digit representing 65 "fields of training" because the ISCED categories appeared too broad for policy-relevant statistics especially regarding vocational education. This last classification has been used in European statistics until 2015. Then they were replaced by the new ISCED classification, which will be described in the next section.

For individual countries, for instance Germany, a detailed list containing roughly 300 subjects of tertiary education and their coding into the ISCED 1997 version for fields of education exists. However, those detailed lists do not seem to exist for all countries, and are often not in the public domain.

The OECD developed another classification of *Fields of Science and Technology (FoS)* (OECD, 2007) which is much more specific with regard to the fields of education in tertiary education. It is thus not suitable for classifying fields of education across education levels and thus not used in surveycodings.

3.2 The International Standard Classification of Education on Fields of Education and Training

The International Standard Classification of Education on Fields of Education and Training (ISCED-F) was developed by UNESCO Institute for Statistics (UIS) in 2013 and aims to describe and classify fields of education and training at the secondary, post-secondary non-tertiary and tertiary education levels (UNESCO-UIS, 2014, 2015). At the primary level, education is assumed to be generally oriented, i.e. not specialised by field. The units of the ISCED-F classification are the same as in the classifications of ISCED-P and ISCED-A, that is the educational programmes and their related qualifications. Relevant for determining ISCED-F is the "broad domain, branch or area of content covered by an education programme or qualification" (UNESCO-UIS, 2014, p. 5).

When developing the new International Standard Classification of Education in 2011, UNESCO decided to introduce separate sub-classifications for educational attainment (ISCED-A), educational programmes (ISCED-P) and fields of education and training (ISCED-F). Like in its predecessor version from 1997, ISCED-F is independent of the other two classifications, and was also revised in a separate (somewhat later) process in 2013. The Eurostat classification was used as a starting point, which explains the large similarities between the new ISCED-F and the FoET.

The most recent version of ISCED-F distinguishes between 11 broad fields of education on the first digit, 29 narrow fields on the second digit and about 80 detailed fields on the third digit. Detailed fields are grouped into narrow fields and narrow fields into broad fields based on the similarity of content covered in the respective programme. The broad field aggregates

related narrow fields into reporting categories, such as "Business, administration and law" or "Health and welfare". On the second digit, broad fields, which often already cover quite different domains, are split into more narrow fields, e.g. "Business and administration" and "Law" or "Health" and "Welfare". On the detailed level, this classification for instance distinguishes, in the narrow field "Welfare", between "Care of elderly and disabled adults", "Child care and youth services" and "Social work and counselling" (UNESCO-UIS, 2014, 2015). So most specific fields of education are classified at the 3rd digit. Some fields however are already specified at the 2nd digit, in which case the 3rd digit refers to the same narrow field. The full classification is provided in Appendix I: Table of Fields of Education and Training (ISCED-F).

4   The Surveycodings Tool for Fields of Education and Training

ISCED-F was not developed for direct use in surveys, but as a statistical tool mostly to be used by statistical offices where experts classify process-produced data e.g. on enrolments into the different fields for cross-national comparisons. Broad fields were thus intended to be mainly used for statistical aggregation, not as response categories in surveys. As mentioned above, using broad fields of education as response categories in surveys is likely problematic in terms of reliability and respondent burden.

SERISS WP8 therefore developed a detailed measurement instrument for fields of education related to the most recent version of ISCED-F. We develop an innovative questionnaire design that enables using 'long lists' (a 3-level search tree) without need for costly post-coding, using an underlying multilingual database of fields of education (see next section). As with the list of occupations and industries, input harmonisation can be applied, meaning it is possible to translate fields of education and training into different languages, and use the same structure for the search tree in all countries. The languages currently covered by the database are presented in section 4.2. It is hoped that respondents can more easily and reliably respond to the survey question on their field of education using the search tree interface, than using the highly aggregated list of broad fields. Furthermore, a textstring matching interface was designed. Further details on these interfaces is provided in section 4.3. Section 4.4 examines some known limitations.

4.1   Design of the Database of Fields of Education and Training

The database of fields of education and training is primarily intended to facilitate respondents' self-identification of fields of education in web-surveys by selecting it from a search tree. In surveycodings we distinguish between about 80 fields of education and training. These are the detailed fields of the ISCED classification described above. This section briefly describes the structure of the database for fields of education, which is a simple Excel file. The database is also available for live search online at https://www.surveycodings.org/fields-education/database-live-search

The Excel file consists of two sheets named "overview" and "edufields". The sheet "edufields" is the main sheet covering all information on fields of education, translations and the structure of the search tree. The sheet "overview" documents the information provided in the "edufields". Table 1 reproduces the information contained in the 'overview' sheet.

The field "ID" is an internal administrative field which is empty in the Excel file but used in the online version. It can be ignored by users. The field that actually identifies the classification entries is called "name" and consists of the 4-digit ISCED-F code (since the first level of the classification has more than 10 categories, it needs two digits). The field "description" provides the English label of the respective field of education. So for example, the row with code "0214" in column "name" corresponds to the detailed field described as "Handicrafts".

The next three fields define the structure of the search tree. The database field "treelevel" describes which digit of the classification the field of the respective database entry, which was used to define the levels of the search tree. So survey respondents will first see the aggregated list of broad fields, and once they unfold one of these broad fields, they will see the narrow fields on the 2nd level of the search tree. If the narrow field is subdivided into several detailed fields, it can again be unfolded to show the 3rd digit differentiations on the 3rd level of the search tree. When there is no such further differentiation, e.g. like with the field "Law", the search tree does not offer a 3rd level. The database field "parent_name" contains the value of the field "name" of the higher digit entry that the more detailed entry belongs to. Broad fields do not have "parents" of course, so for these, this field is empty. The

database field "treeorder" finally specifies the order of multiple fields within a broad or narrow field. Regarding the example of "Handicrafts", this is identified as a detailed field of education in the narrow group "Arts", which in turn belongs to broad field "Arts and humanities". It is the 4th entry in the search tree.

Table 1 Structure of the Excel file of field of education

name of the database field	description	type/unit
id	internal ID	numeric
name	4-digit ISCED-F code (derived from column iscedf13d3)	numeric, 4 digits
description	name of field of education in English	alpha, string
treelevel	structure of the search tree: level of the entry	numeric, 1 digit
parent_name	structure of the search tree: defines the parent for all second level entries (first-level-entry, iscedf13d1) and for all third level entries(second-level-entry, iscedf13d2)	numeric, 4 digits
treeorder	structure of the search tree: indicates the position within the level	numeric, 2 digits
iscedf13d1	ISCED-F code: 2 digits indicating the broad fields of education (range: 0000-1000; 3rd and 4th digit are always zero)	numeric, 4 digits
iscedf13d2	ISCED-F code: 3 digits indicating the 29 narrow fields of education (range: 0000-1040, 4th digit is always zero)	numeric, 4 digits
iscedf13d3	ISCED-F code: 4 digits indicating 80 detailed fields of education (range: 0000-1041)	numeric, 4 digits
translation-xx	translation of the name of fields of education (see column: description) into different languages or country-language combinations	alpha, string

The next three fields provide ISCED-F codes at three different levels of detail: First the 1st level of the classification (broad field only, iscedf13d1), then the 2nd level (narrow field only, iscedf13d2), and finally all 3 levels (detailed fields, iscedf13d3). Of course, one could also simply get to the less detailed version by successively truncating the detailed code. The most detailed code given in iscedf13d3 is copied over to the field "name" since this defines the most detailed entries in the database.

All remaining columns in the Excel file cover translations of the broad, narrow and detailed fields of education and training in different languages. These columns are named "translation-xx" where "xx" is the alpha-2 language code (using ISO-639-1). If we found different translations from two countries using the same language, the country is additionally identified by adding the country code after an underscore (e.g. translation-ro_RO).

4.2   Languages Covered by the Database

As mentioned, the surveycodings database of fields of education and training covers 34 languages. The SERISS proposal suggested to cover all languages of the EU 28 countries as well as the most spoken language groups outside the EU 28 area including Russian, Mandarin, Arabic, Hindi and Bahasa.

For ISCED-F the UNESCO offers translations into 5 languages (English, French, Spanish, Arabic and Standard Chinse). We started with the implementation of the four translations provided by UNESCO. Afterwards we extended the database by including more translations. To obtain the information for more languages, the project team used two strategies: research on the websites of national statistical offices and education ministries and, if this did not lead to a satisfactory result, contacts in these institutions were contacted by email. The latter strategy was the most successful one: unfortunately, such information is often not in the

public domain. However, it was not possible to achieve the full amount of detail for all languages. Thus, for some languages the 3rd level of the classification (detailed fields) are missing. **Fehler! Verweisquelle konnte nicht gefunden werden.** gives an overview of all languages covered in this first version of the database, as well as the level of detail of the ISCED-F classification available.

We expect that the terminology for fields of education is not very country-specific, so that, for example, the French version can be used in France, Belgium, Switzerland and Canada. The resulting languages can be employed in about 90 countries (see Appendix II). Even though the team tried hard, it was not possible to obtain further translations to cover even more countries to cover the same 99 countries covered by other concepts in surveycodings.

Table 2 Overview of available languages for fields of education

| Language	broad fields	narrow fields	detailed fields
Arabic			x
Bangla			x
Bulgarian			x
Croatian			x
Czech			x
Danish	x		
Dutch			x
English			x
Estonian			x
Finnish			x
French			x
Georgian			x
German			x
Greek			x
Hebrew	x		
Hungarian			x
Indonesian		x	
Italian	x		
Japanese	x		
Kazakh		x	
Latvian			x
Lithuanian			x
Mandarin			x
Norwegian	x		
Polish			x
Portuguese			x
Romanian (for Moldova)*			x
Romanian (for Romania)*			x
Russian			x
Serbian			x
Slovak			x
Slovene			x
Spanish			x
Swedish			x
Turkey			x
Sum	5	2	28

*We find two different language versions of Romanian, one for Romania, and a slightly different one for Moldova. Therefore both versions are included in the database.

4.3   Survey Interfaces Available for Live Search at Surveycodings.org

The website https://www.surveycodings.org/fields-education/database-live-search allows prospective users of the database to browse through it in the database live search using both available interfaces. Thereby potential users can get an idea of what the tool can look like when implemented in a computer assisted survey.

First, the user needs to select a country (and, for multilingual countries, language) for which to search the database. Screenshot 1 shows what the country/language selection looks like in the provided country/language chooser.

Screenshot 1   Country/language selection
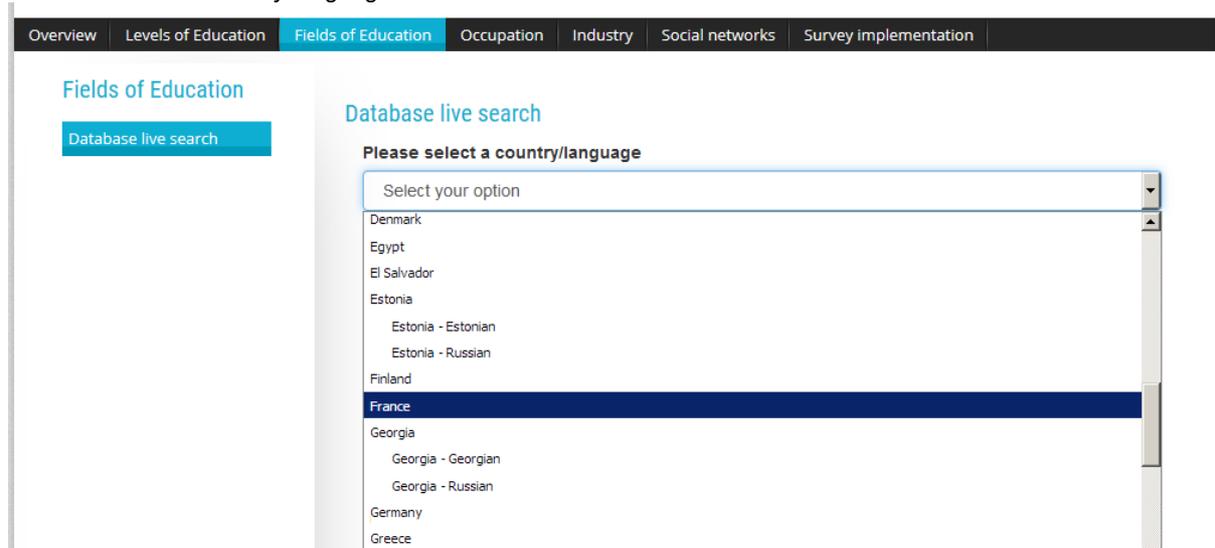
After this selection has been made, two search interfaces - textstring matching and search tree - become available. Screenshot 2 presents the text-string matching interface for France, using the search term "Art".

Screenshot 2   Text-string matching
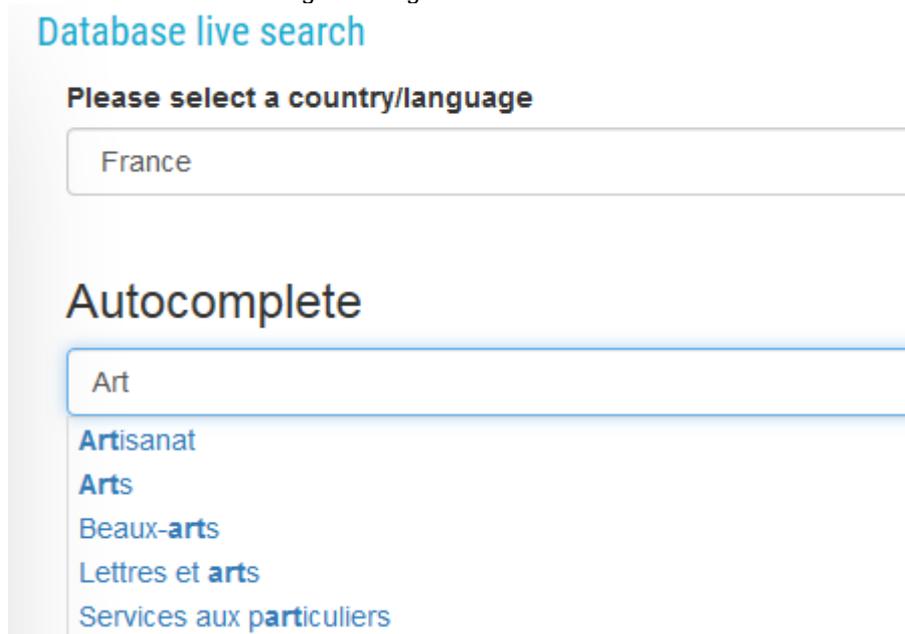
As can be seen from the list of results, the search algorithm prioritises matches at the beginning of a database entry over matches inside a database entry. While the textstring matching interface is not recommended for use in survey questionnaires given the still somewhat low number of detailed fields and thus a risk of not producing any match when using this open search, this tool may be useful for post-coding of open responses. Even then, it is likely incomplete, and the UNESCO documents (UNESCO-UIS, 2014, 2015) will be needed.

Screenshot 3 shows the search tree interface of the French translation of fields of education and training. This interface is reco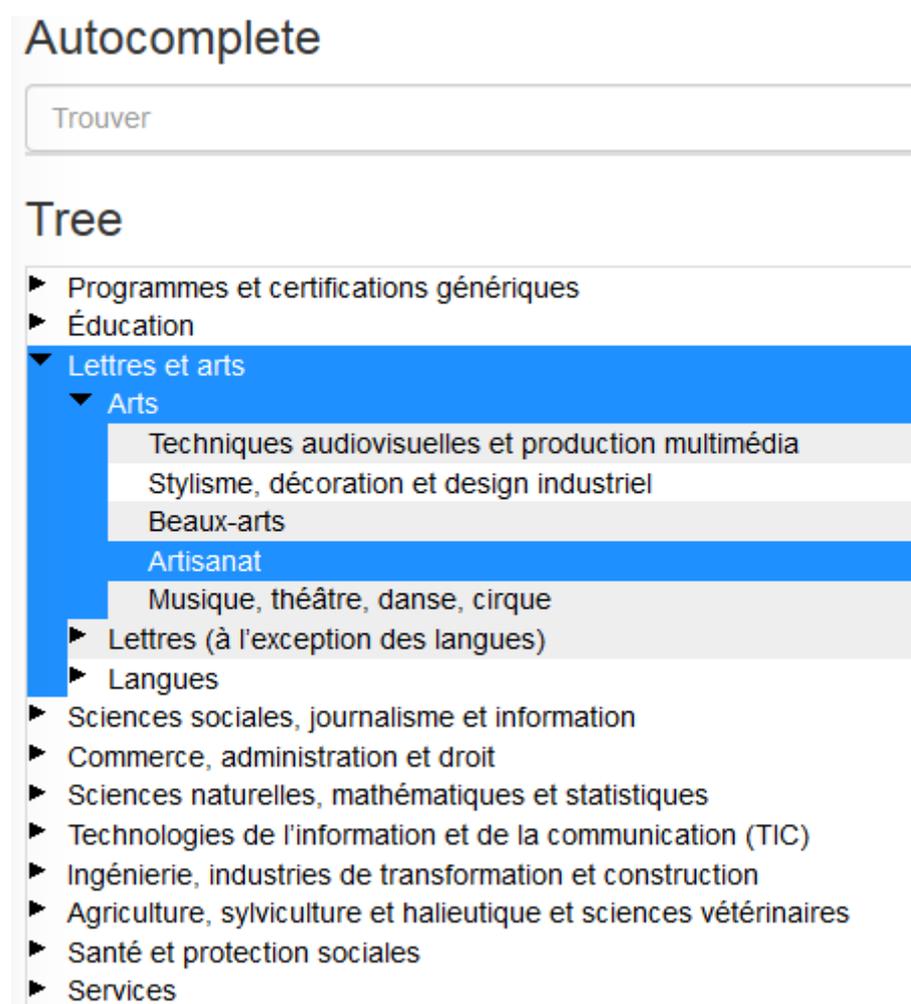mmended for implementation in computer-assisted survey questionnaires since its use should be fairly intuitive for respondents and there is no ambiguity regarding the level of detail required (as in the textstring matching interface).

Screenshot 3   Search tree

Questionnaires using this tool are ideally self-administered so that the respondent him/herself can navigate the search tree, making it most suitable for web surveys. In CAPI surveys, this can be achieved by temporarily switching to CASI mode, i.e. the interviewer handing the tablet or laptop over to the respondent to respond to this question. In CATI mode, it may be rather cumbersome to use because interviewers will either need to read out the full first level list, and then the full second level list of the first level entry selected by the respondent, and then the full third level list of the second level entry selected by the respondent. Alternatively, the interviewer could ask the question openly, navigate the search tree him/herself, and confirm the result with the respondent. This would however be a less standardized process than what is usually desirable in surveys.

Screenshot 4 shows information on the coding of the selected entry into ISCED-F, including the most detailed code as well as the English label of the corresponding field of education. This information will be coded in the data when implementing the tool in a questionnaire, and can also be used for post-coding.

Screenshot 4   Coding information for fields of education and training using ISCED-F

Information

Name: 0214
Description: Handicrafts
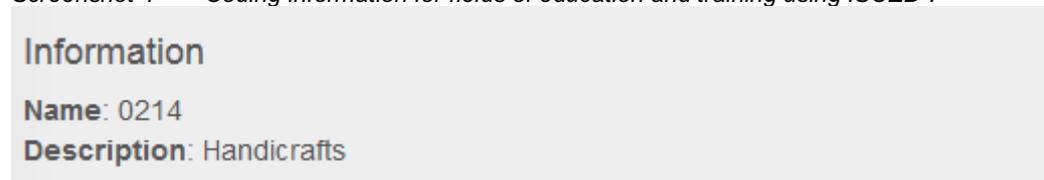
4.4 Known Limitations

While we commonly distinguish between different subjects or fields in tertiary education, this is more rarely done for subjects or fields in secondary education, especially concerning vocational programmes. Even though Eurostat's and Cedefop's efforts in the 1990s have gained entry in the official international classification of fields of education and training, the categories provided by ISCED-F still look biased towards academic fields and may thus be easier to use for academically educated respondents than for respondents having participated in a vocational programme. This is a known problem which cannot be addressed by surveycodings.

Given the high level of differentiation of educational programmes in very fine-grained fields (and sub-fields) of education in most countries today, even about 80 detailed fields of education is still a low number of fields to choose from for survey respondents, especially when considering the option of using text-string-matching as a survey interface. The detailed fields may still not match with the idea the respondent has in mind when asked about his/her main field of education and training. This degree of detail is not covered by ISCED, partly because content would become too specific, which would also require more regular updates of the classification itself because fields of education are likely to change more often than educational qualifications. Also, some detailed (especially vocational) fields may only exist in countries with very differentiated vocational education systems, like, for example, in Germany with more than 400 specialisations available in apprenticeships. While UNESCO's manual (UNESCO-UIS, 2015) contains examples for specific programmes and subjects for each detailed field of education to illustrate their coding, these are just examples rather than a comprehensive list which - in principle - could be included in the database (e.g. by adding a further digit). Furthermore, this information is only available in English. It would be a future step to obtain more comprehensive lists of highly specific names of programmes, produce good translations of these, and include them in the database. The same also applies for the mentioned German list of subjects of tertiary education, which could in principle also be translated and included. However, offering these 80 options from which a detailed ISCED-F code can be derived represents substantial progress compared to a situation in which the respondent needs to classify him/herself into the broad levels right away without any further information on the specific contents of these broad levels. Anyway, using the search tree will be more promising approach for implementation in any survey.

A special difficulty are inter-disciplinary programmes which combine several fields and subjects. ISCED asks coders to use the main or leading subject of the programme to determine into which field of education and training it should be coded (see section 7 in the report of UNESCO-UIS (2014)). However, survey respondents cannot be overburdened with instructions of this kind. Obtaining information on field of education using a survey will, compared to the use of administrative register data, always contain a strong subjective element.

5 Outlook

Measuring respondents' field of education in a survey is not an easy task. Building on a recent revision of the International Standard Classification of Education for Fields of Education and Training, WP8 of SERISS has constructed a new multilingual database of fields of education covering 34 languages that correspond to about 90 countries. This database can be used via two interfaces, namely text-string matching and a search tree. The former may be useful for post-coding, while the latter is recommended for implentation in computer-assisted, especially web surveys. While this is a promising development, this tool is brand-new and has neither undergone any pre-testing nor piloting.

For surveys interested in implementing this tool, we firstly recommend using the search tree interface because this gives the respondents a better hint at the information aimed at. This is not possible when using the text-string matching which can be quite challenging without an adequate instruction. Secondly, we urge any survey planning implementation to carefully pretest and pilot-run the tool in all countries/language versions it is intended to be fielded.

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Appendix I: Table of Fields of Education and Training (ISCED-F)

Broad field	Narrow field	Detailed field
00 Generic programmes and qualifications	001 Basic programmes and qualifications	0011 Basic programmes and qualifications
	002 Literacy and numeracy	0021 Literacy and numeracy
	003 Personal skills and development	0031 Personal skills and development
01 Education	011 Education	0111 Education science
		0112 Training for pre-school teachers
		0113 Teacher training without subject specialisation
		0114 Teacher training with subject specialisation
02 Arts and humanities	021 Arts	0211 Audio-visual techniques and media production
		0212 Fashion, interior and industrial design
		0213 Fine arts
		0214 Handicrafts
		0215 Music and performing arts
	022 Humanities (except languages)	0221 Religion and theology
		0222 History and archaeology
		0223 Philosophy and ethics
	023 Languages	0231 Language acquisition
		0232 Literature and linguistics
03 Social sciences, journalism and information	031 Social and behavioural sciences	0311 Economics
		0312 Political sciences and civics
		0313 Psychology
		0314 Sociology and cultural studies
	032 Journalism and information	0321 Journalism and reporting
		0322 Library, information and archival studies
04 Business, administration and law	041 Business and administration	0411 Accounting and taxation
		0412 Finance, banking and insurance
		0413 Management and administration
		0414 Marketing and advertising
		0415 Secretarial and office work
		0416 Wholesale and retail sales
		0417 Work skills
	042 Law	0421 Law
05 Natural sciences, mathematics and statistics	051 Biological and related sciences	0511 Biology
		0512 Biochemistry
	052 Environment	0521 Environmental sciences
		0522 Natural environments and wildlife
	053 Physical sciences	0531 Chemistry
		0532 Earth sciences
		0533 Physics
	054 Mathematics and statistics	0541 Mathematics
		0542 Statistics
06 Information and Communication Technologies (ICTs)	061 Information and Communication Technologies (ICTs)	0611 Computer use
		0612 Database and network design and administration
		0613 Software and applications development and analysis

07 Engineering, manufacturing and construction	071 Engineering and engineering trades	0711 Chemical engineering and processes 0712 Environmental protection technology 0713 Electricity and energy 0714 Electronics and automation 0715 Mechanics and metal trades 0716 Motor vehicles, ships and aircraft
	072 Manufacturing and processing	0721 Food processing 0722 Materials (glass, paper, plastic and wood) 0723 Textiles (clothes, footwear and leather) 0724 Mining and extraction
	073 Architecture and construction	0731 Architecture and town planning 0732 Building and civil engineering
08 Agriculture, forestry, fisheries and veterinary	081 Agriculture	0811 Crop and livestock production 0812 Horticulture
	082 Forestry 083 Fisheries 084 Veterinary	0821 Forestry 0831 Fisheries 0841 Veterinary
09 Health and welfare	091 Health	0911 Dental studies 0912 Medicine 0913 Nursing and midwifery 0914 Medical diagnostic and treatment technology 0915 Therapy and rehabilitation 0916 Pharmacy 0917 Traditional and complementary medicine and therapy
	092 Welfare	0921 Care of the elderly and of disabled adults 0922 Child care and youth services 0923 Social work and counselling
10 Services	101 Personal services	1011 Domestic services 1012 Hair and beauty services 1013 Hotel, restaurants and catering 1014 Sports 1015 Travel, tourism and leisure
	102 Hygiene and occupational health services	1021 Community sanitation 1022 Occupational health and safety
	103 Security services	1031 Military and defence 1032 Protection of persons and property
	104 Transport services	1041 Transport services

Appendix II: Table of Country and Language Availability of Fields of Education and Training

Country	Language (and ISO abbreviation)	Availability	Language deviation for fields of education
Albania	Albanian (sq)		
Angola	Portuguese (pt)	x	
Argentina	Spanish (es)	x	
Australia	English (en)	x	
Austria	German (de)	x	
Belarus	Russian (ru)	x	
Belgium	Dutch (nl), French (fr)	x	
Benin	French (fr)	x	
Bolivia	Spanish (es)	x	
Bosnia and Herzegovina	Bosnian (bs)		
Brazil	Portuguese (pt)	x	
Bulgaria	Bulgarian (bg)	x	
Burundi	Swahili (sw), English (en), French (fr)	x	only French and English available
Cambodia	Khmer		
Cameroon	English (en), French (fr)	x	
Canada	English (en), French (fr)	x	
Chile	Spanish (es)	x	
China	Standard Chinese (zh)	x	
Colombia	Spanish (es)	x	
Costa Rica	Spanish (es)	x	
Croatia	Croatian (hr)	x	
Cyprus	Greek (gr)	x	
Czech Republic	Czech (cs)	x	
Denmark	Danish (da)	x	
Egypt	Arabic (ar)	x	
Estonia	Estonian (et)	x	
Ethiopia	Amharic (am)	x	only English available
Finland	Finnish (fi)	x	
France	French (fr)	x	
Germany	German (de)	x	
Ghana	English (en)	x	
Greece	Greek (gr)	x	
Guatemala	Spanish (es)	x	
Guinea	French (fr)	x	
Honduras	Spanish (es)	x	
Hungary	Hungarian (hu)	x	

Iceland	Icelandic (is)		
India	Hindi (hi), English (en)	x	only English available
Indonesia	Bahasa (id)	x	
Iran	Farsi/ Persian (fa)		
Ireland	English (en)	x	
Israel	Hebrew (he)	x	
Italy	Italian (it)	x	
Japan	Japanese (ja)	x	
Kazakhstan	Kazakh (kk)	x	
Kenya	English (en)	x	
Kosovo	Albanian (sq), Serbian (sr)	x	only Serbian available
Latvia	Latvian (lv)	x	
Lithuania	Lithuanian (lt)	x	
Luxembourg	German (de)	x	
Macedonia	Macedonian (mk), Serbian (sr), Albanian (sq)	x	only Serbian available
Madagascar	French (fr)	x	
Malawi	English (en)	x	
Malaysia	Malay (ms)		
Malta	English (en)	x	
Mexico	Spanish (es)	x	
Moldova	Romanian (ro)	x	Romanian (for Moldova; ro_MD)
Montenegro	Montenegrin (xm)		
Morocco	Arabic (ar), French (fr)	x	
Mozambique	Portuguese (pt)	x	
Netherlands	Dutch (nl)	x	
New Zealand	English (en)	x	
Nigeria	English (en)	x	
Norway	Norwegian (no)	x	
Pakistan	English (en), Urdu (ur)	x	only English available
Paraguay	Spanish (es)	x	
Peru	Spanish (es)	x	
Philippines	Tagalog/Filipino (fil), English (en)	x	only English available
Poland	Polish (pl)	x	
Portugal	Portuguese (pt)	x	
Romania	Romanian (ro)	x	Romanian (for Romania; ro_RO)
Russian Federation	Russian (ru)	x	
Rwanda	English (en), French (fr)	x	
Senegal	French (fr)	x	
Serbia	Serbian (sr)	x	
Singapore	English (en), Mandarin (cmn)	x	only English available

Slovak Republic	Slovak (sk)	x	
Slovenia	Slovene (sl)	x	
South Africa	English (en)	x	
South Korea	Korean (ko)		
Spain	Spanish (es)	x	
Suriname	Dutch (nl)	x	
Sweden	Swedish (sv)	x	
Switzerland	French (fr), German (de), Italian (it)	x	
Tanzania	English (en), Swahili (sw)	x	only English available
Thailand	Thai (th)		
Togo	French (fr)	x	
Tunisia	Arabic (ar), French (fr)	x	
Turkey	Turkish (tr)	x	
Uganda	English (en)	x	
Ukraine	Ukrainian (uk), Russian (ru)	x	only Russian available
United Kingdom	English (en)	x	
United States of America	English (en)	x	
Uruguay	Spanish (es)	x	
Uzbekistan	Uzbek (uz), Russian (ru)	x	only Russian available
Venezuela	Spanish (es)	x	
Viet Nam	Vietnamese (vi)		
Zambia	English (en)	x	English
Zimbabwe	English (en)	x	English