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Guidelines on the measurement of educational attainment in household surveys

Version 1 - May 2013

GUIDELINES ON THE MEASUREMENT OF EDUCATIONAL ATTAINMENT

ACCORDING TO ISCED 2011

Manual for EU and OECD countries - version 1

Introduction

Eurostat, the OECD and all Member States have significantly contributed to the ISCED review. The implementation of ISCED 2011 is indeed an opportunity to improve the comparability of EU and OECD statistics on education and training and to provide more harmonised metadata. The latter will help to ensure better quality of data provided by international institutions.

The UNESCO General Conference adopted ISCED 2011 on 10 November 2011¹. Paragraph 6 of the ISCED 2011 document invites in particular for implementation manuals.

These guidelines on the measurement of educational attainment describe how educational attainment definitions from the ISCED 2011 document will be implemented in household surveys. This manual has a regional scope covering the relevant sources in the EU and OECD countries. The updated, enriched version 2 of these guidelines is foreseen for the 1st quarter 2014.

The current guidelines review in section 1 all ISCED concepts related to educational attainment and bring clarifications on main operational aspects from section 2 to section 4 as follows:

1. ISCED 2011 concepts and definitions related to educational attainment
2. Borderline cases
3. Data collections
4. Metadata

Please note that:

- ✓ UNESCO, the OECD and Eurostat are developing an ISCED 2011 operational manual for mapping programmes and qualifications to ISCED levels. The references to this manual (in particular as concerns borderline cases) are included in this document. The final version of this operational manual is foreseen for early 2014.
- ✓ It is expected that the classification of fields of education will be adopted by the General Conference of UNESCO in autumn 2013. The implementation of this classification in EU data collections is foreseen from 2016. Until this date, the categories of fields of education according to FOET 1999 will be used in the EU surveys. The specific part on implementation of this classification will be added to the guidelines on the measurement of educational attainment in 2014 (version 2).

¹ Please see the [ISCED home page](#) on UNESCO website.

1. ISCED 2011 CONCEPTS and DEFINITIONS

related to educational attainment

This section reviews the concepts and definitions given by ISCED 2011 (*in italic*). The paragraphs “**① Comments and clarifications**” brings additional information for their implementation.

1.1 Basic concepts in ISCED 2011 particularly relevant for educational attainment

➤ Course/module – part of educational programme

§11. In ISCED, an **education programme** is defined as a coherent set or sequence of educational activities designed and organized to achieve pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period. ... A common characteristic of an education programme is that, upon fulfilment of learning objectives or educational tasks, successful completion is certified.

§18. Within an education programme, educational activities may also be grouped into subcomponents variously described in national contexts as ‘courses’, ‘modules’, ‘units’ and/or ‘subjects’. In ISCED a ‘course’ is equivalent in meaning to a ‘module’, ‘unit’ and/or ‘subject’..

➤ Education programme – allocated to the ISCED level

Levels of education (from ISCED 2011 glossary): An ordered set grouping education programmes in relation to gradations of learning experiences, as well as the knowledge, skills and competencies which each programme is designed to impart. The ISCED level reflects the degree of complexity and specialisation of the content of an educational programme, from foundational to complex.

➤ Qualification – credential

Qualification (from ISCED 2011 glossary): The official confirmation, usually in the form of a document, certifying the successful completion of an education programme or of a stage of a programme.

Qualifications can be obtained through: i) successful completion of a full education programme; ii) successful completion of a stage of a programme (intermediate qualifications); or iii) validation of acquired knowledge, skills and competencies, independent of participation in such programmes. This may also be referred to as a ‘credential’

§21. ISCED 2011 considers the **recognised qualifications** corresponding to an education programme as a related unit of the classification. In ISCED, the term ‘qualification’ is synonymous with ‘credential’. Other terms such as ‘certificate’, ‘degree’ or ‘diploma’ are types of qualification and are treated as being synonymous with each other within ISCED. The classification of qualifications officially recognised by the relevant national education authorities is the basis for statistics on educational attainment.

§22. In ISCED, education programmes are classified first and qualifications are subsequently classified. **The ISCED mapping is the tool to show the links between educational programmes and qualifications.** Normally one education programme leads to one qualification. However, in some cases several programmes can lead to the same qualification, and one programme can lead to a number of different qualifications.

➤ **Scope of ISCED:**

§35. ISCED 2011 covers formal and non-formal educational programmes offered at any stage of a person's life. Qualifications which are recognized by the relevant national educational authorities, however they are obtained (e.g. by successful completion of a formal educational programme or via a non-formal educational programme or informal learning activity) are used for the purpose of measuring educational attainment. ISCED does not cover programmes of informal, incidental or random learning, nor qualifications which are not recognised.

Formal education (from ISCED 2011 glossary): Education that is institutionalized, intentional and planned through public organizations and recognized private bodies and - in their totality - constitute the formal education system of a country. Formal education programmes are thus recognized as such by the relevant national education authorities or equivalent authorities, e.g. any other institution in cooperation with the national or sub-national education authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognised as being part of the formal education system.

§296. While non-formal education is a recognised part of ISCED, it is likely that international data collection exercises (mappings, surveys and censuses etc.) will restrict their coverage to formal programmes for the sake of international comparability and feasibility. The boundary between formal and non-formal programmes is therefore important and should be given specific attention. However, at this stage, ISCED 2011 does not give specific advice on the development of mappings for non-formal programmes or any related non-formal qualifications.

① Comments and clarifications:

- **Only qualifications (which might be obtained also through non-formal or informal processes) recognised by national authorities in the formal education system are to be considered for educational attainment classified by ISCED.**
- Qualifications obtained via non-formal or informal processes or via validation of competencies and recognised as equivalent to qualifications from formal education are relatively rare nowadays but are expected to rise in numbers in the future. They should be reported from 2013 in the second part of ISCED integrated mappings.

1.2 Concepts directly related to educational attainment

ISCED 2011 has introduced a new classification of educational attainment (ISCED-A) and “completion of an educational programme” is its important dimension. As this concept might lead to misunderstanding, guidelines are needed for its implementation.

➤ **Completion of an educational programme/level**

§56. *The requirements for successful completion of an education programme, i.e. achievement of its learning objectives, are normally stipulated in the programme specifications and usually include:*

- attendance requirements (enrol and regularly attend through the final year of a programme); and/or
- demonstrated acquisition of expected knowledge, skills and competencies.

§57. *The acquisition of the knowledge, skills and competencies forming the learning objective of an educational programme is normally validated by:*

- passing (i.e. succeeding in) a final, curriculum-based examination or series of examinations;
- accumulating the specified number of study credits; or
- a successful formal assessment of the knowledge, skills and competencies acquired.

In formal education, successful completion usually results in a qualification that is recognised by the relevant national education authorities.

§58. Educational programmes at ISCED levels 1 and 2 (and occasionally at ISCED levels 3 or 4) do not always conclude with a qualification. In these cases, other criteria in place of qualifications should be used to determine successful completion; for example having attended the full final year of the programme or having access to a higher level of education.

§59. Successful completion of programmes at ISCED levels 1 to 3 is considered as level completion when the qualification obtained is designed to provide direct access to a higher ISCED level. In the case of ISCED level 3, 'higher ISCED level' is taken to mean ISCED levels 5, 6 or 7. Qualifications are considered as giving access to a higher ISCED level even if this access is limited to only some of the programmes at the higher ISCED level. Successful completion of programmes classified at ISCED levels 4-8 is considered as level completion. However, for educational attainment, recognised qualifications obtained before completing the programme (e.g. from the successful completion of a stage of the programme resulting in a recognized intermediate qualification) are classified at a lower ISCED level. When a qualification obtained does not provide direct access to a higher ISCED level, successful completion of programmes may be considered as level completion (without access) or no level completion. At ISCED level 2 and 3 only, qualifications which do not give access to a higher ISCED level may be considered as level completion (without access), partial level completion or no level completion.

§60. Educational programmes and corresponding qualifications within ISCED levels 2 and 3 are distinguished by four subcategories:

1. **no level completion** (and thus without direct access to a higher ISCED level – which in the case of ISCED 3 is to levels 5, 6 or 7);
2. **partial level completion without direct access** to a higher ISCED level;
3. **level completion without direct access** to a higher ISCED level; and
4. **level completion with direct access** to a higher ISCED level (which in the case of ISCED 3 is to first tertiary programmes at levels 5, 6 or 7).

§61. Successful completion of programmes at ISCED levels 2 or 3 which do not give access to programmes at a higher ISCED level (which in the case of ISCED level 3 is ISCED levels 5, 6 or 7) is considered as level completion or partial level completion if the programme meets the following criteria: i) the programme has a **duration of at least 2 years** of study at the given ISCED level; and ii) the cumulative duration since the start of ISCED level 1 is at least 8 years for ISCED level 2 programmes and at least 11 years for ISCED level 3 programmes. Successful completion of shorter programmes at either ISCED level is regarded as the successful completion of the programme only. For educational attainment purposes, any recognised qualifications obtained from the successful completion of short programmes are classified at a lower ISCED level than the programme itself.

§62. Programmes which:

- a) do not meet the content, minimum duration and cumulative duration criteria are classified as category 1 (no level completion).
- b) meet the content, minimum duration and cumulative duration criteria, are part of a sequence of programmes within the same ISCED level (but are not the last programme in the sequence), and therefore do not give direct access to a higher ISCED level are classified as category 2 (partial level completion).
- c) meet the content, minimum duration and cumulative duration criteria and are terminal programmes are classified as category 3 (level completion without direct access). Such programmes usually lead directly to labour market-relevant qualifications.
- d) are ISCED level 3 programmes giving access to ISCED level 4 programmes only are also classified as category 3 (level completion without direct access).
- e) give direct access to tertiary education at ISCED level 5, 6 or 7 are classified as category 4 (level completion with direct access)

§63. A programme for a specific group of participants (adults or individuals with special needs) may have a shorter or longer duration than similar programmes in regular education at a given ISCED level. However, successful completion of a programme should only count as level completion if the qualification obtained indicates the acquisition of an equivalent level of knowledge, skills and competencies as in regular education programmes at the same level.

§64. Participation in a programme without successful completion does not qualify for level completion or partial completion and - except at ISCED levels 0 and 1- is not considered when determining educational attainment levels. Thus the educational attainment level of individuals who do not successfully complete a given programme is the highest level achieved before entering the programme.

§65. While the criteria for level completion apply to successful completion and are thus only directly applicable to individuals, educational programmes as a whole are classified according to the highest possible qualification they are designed to prepare for, even if some participants will not obtain this qualification.

➤ **Concept of educational attainment in ISCED 2011**

§81. **The educational attainment of an individual is defined as the highest ISCED level completed by the individual.**

For operational purposes, educational attainment is usually measured with respect to the highest education programme successfully completed, which is typically certified by a recognised qualification. Recognized intermediate qualifications are classified at a lower level than the programme itself.

§82. An education programme is usually considered to be successfully completed when a student has attended and completed a formal education programme and is awarded a recognised qualification (see also Paragraphs 56 to 58).

§83. Relevant national education authorities may recognise qualifications obtained through non-formal education programmes or through the validation of skills gained by means of informal learning as equivalent to formal educational qualifications. These qualifications are also considered within the concept of educational attainment as defined by ISCED. Qualifications from non-formal education or validation of skills that are not recognised as equivalent to formal qualifications are not within the scope of ISCED (see Paragraph 35).

§84. The ISCED definition of education attainment should be distinguished from other concepts related to an individual's educational achievements. Individual achievements may include education levels attended but not successfully completed, or an individual's actual knowledge, skills and competencies (e.g. levels of literacy and numeracy) as determined through standardised testing or years of schooling.

§85. Individuals who attend only part of an educational programme or who do not meet the completion requirements (e.g. fail the final examinations) do not qualify for successful completion of the programme. They should be classified according to the highest ISCED level successfully completed (i.e. before entering the programme that was not successfully completed).

§86. For the classification of educational attainment, level 0 has a different meaning than for the classification of educational programmes: it means not having successfully completed ISCED level 1. This includes individuals who have never attended an education programme, who have attended some early childhood education or who have attended some primary education but have not successfully completed ISCED level 1. Several sub-categories are considered for this attainment level (see table 4).

§87. Educational attainment can be classified according to completed (or partially completed) ISCED level, programme orientation and access to higher ISCED levels. If an individual has successfully completed the same ISCED level more than once (e.g. by taking two different programmes which are normally offered as parallel options), the characteristics of the most recent qualification obtained should be reported.

① Comments and clarifications on the definition of educational attainment and related concepts:

Most users expect educational attainment to refer to educational programmes successfully completed (e.g. for analyses of labour market and social outcomes of education). This is not to deny that other concepts are important and may need to be used to develop a more complete picture of human capital. For example, it would be relevant to capture all educational programmes individuals have attended since they contribute to the acquisition and improvement of competences.

Three concepts need to be specified to clarify the definition of educational attainment:

1. Educational programmes attended (with or without successfully completing them)

Information on educational programmes attended but not necessarily successfully completed could be a basis for additional analyses of transitions in the educational systems, drop-outs or skills and competences. This type of information might be collected in specific, related to education, surveys (e.g. AES, PIAAC).

2. Educational programmes successfully completed (success being validated by a recognised credential)

An educational programme successfully completed should be considered as an output and as such needs to be distinguished from the process (attendance) which leads to it.

3. Validated skills and competences (credential recognizing the acquisition of skills and competences not necessarily by enrolment in an educational programme)

Results on validated skills and competences would provide further information on human capital but data collections on this type of qualifications are an important challenge for the future of statistics on outcomes of learning.

For measurement of educational attainment it is proposed to apply the following "integrated" definition for implementation and dissemination of surveys results. Equivalence to the ISCED 2011 level completion is ensured through ISCED mappings, in particular for ISCED level 3 (see section 2).

The **educational attainment level** of an individual is the highest ISCED level successfully completed, the successful completion of educational programme being validated by a recognised qualification (or credential), i.e. a qualification officially recognized by the relevant national education authorities.

The concept of "educational programme successfully completed" typically corresponds to the situation in which a pupil/student attends and completes a formal education programme. Educational attainment corresponds to the highest level successfully completed in the ISCED ladder in that perspective.

The following concepts are useful to recall in that context:

- **Attendance in an educational programme** - participation in a given educational programme, with or without successfully completing it.
- **Full attendance in an educational programme** - participation in all components of a given educational programme, with entitlement to participate in final examinations (if any foreseen).
- **Successful completion of an educational programme** - achievement of the learning objectives of an education programme typically validated through the assessment of acquired knowledge, skills and competencies. Successful completion of an education programme is usually documented by the award of an educational qualification.
- **Drop-out** - withdrawal from a given educational programme without satisfying the conditions for "full attendance".

① Criterion of recognised qualification

In most cases, qualifications (certificates, diploma, degrees) obtained upon successful programme completion are the best proxies to use in the data collection on educational attainment.

But, in countries where educational programmes belonging, in particular, to ISCED levels 1 and 2 do not lead to a qualification, the criterion of full attendance in the programme (giving access to a higher level of education) may have to be used instead.

Only qualifications recognised by the formal education system (qualifications officially recognized by the relevant national education authorities, giving access to higher formal education level (if relevant) or recognised as equivalent to other formal education level) define an individual's educational attainment in terms of the ISCED level.

For countries where modular educational programmes are offered, the highest educational level successfully completed is validated by the successful completion of all requirements of this level.

Although the use of the “recognised qualification” criterion to define educational attainment would be the best proxy, survey designers should pay attention to the following special cases:

- Certain qualifications obtained through non-formal education and training programmes or by validation of competences might be considered, provided that they are recognised by the formal education system (allowing access to higher education levels in the formal education system if relevant).
- Other processes of recognition of skills and competences (e.g. obtained through work experience or from some short non-formal courses) should be clearly differentiated from educational attainment. They are useful for the analysis of human capital and could be collected separately (e.g. for an analysis of 'validated skills and competences'). However, only qualifications recognised by the formal education system can be used for the measurement of educational attainment.

2. BORDERLINE CASES

Sometimes, allocation of educational attainment can be difficult because the programmes leading to the qualification are at the boundary between two ISCED levels. Such difficulties can be related to the ISCED concepts themselves (e.g. “partial level completion”, “insufficient for level completion”) or to the characteristics of the educational programme for which ISCED criteria can be interpreted in different ways.

Examples of the borderlines cases will be included in 2014 in the UNESCO-UIS-Eurostat ISCED operational manual. Here only a general description of the two main issues is given.

2.1 Borderline between ISCED level 2 and 3

ISCED 2011 foresees two situations at ISCED level 3 for which allocation to ISCED of educational programme and educational attainment can raise questions:

- Programmes of duration of less than 2 years are “insufficient for level completion” and therefore lead only to ISCED level 2 educational attainment (244 or 254).
- Sequential programmes leading to “partial level completion”.

This happens when the 1st part(s) of a sequential educational programme represents at least 2 years of study at ISCED level 3 and cumulative duration (since the beginning of ISCED level 1) of at least 11 years and successful completion of this 1st part of the sequence is recognized by national authorities ().

Information on the use of the code 342/352 for educational attainment, relevant in some countries, should be included in metadata accompanying statistics, in particular by indicating how this code is used for calculation of indicators.

➤ ***For more information and examples, please refer to item x of the ISCED 2011 operational manual.***

2.2 Educational programme classified at ISCED level X but its qualification at level X-1

Statisticians working on household surveys should be aware that in some cases classification of educational programme in ISCED can be different from that of educational attainment.

In its coding of educational programmes, ISCED 2011 foresees a special category for levels 2 to 8: “insufficient for level completion”. Clarifications about these categories are given in ISCED document for ISCED levels 2, 3 and 4 but are not complete for ISCED levels 5-8.

For ISCED levels 2 and 3, minimum duration, cumulative duration and access to a higher ISCED levels are the criteria according to which it is possible to allocate the programme to the category “insufficient for level completion”. For ISCED level 4, duration and access to the tertiary education determine this category.

In the ISCED 2011 document, for level 5 only duration (shorter than two years) is clearly taken into account.

As concerns ISCED levels 6 and 7, the cumulative duration of the programme (at tertiary level) is indicated as criterion to classify the programme as “insufficient for level completion”.

It is recommended to pay particular attention in allocation of the educational programme to the category “insufficient for level completion”. The consistency of statistics on participation in education and on educational attainment is a concern for users and especially for the policy makers. It is of particular importance for the data used for the calculation of indicators on tertiary educational attainment (e.g. EU2020 headline indicator), so for the classification of programmes and qualifications at the borderline between ISCED level 4 and 5.

It is recommended to always bear in mind:

- if the programme could not be classified rather at ISCED level X-1 than at ISCED level X (educational attainment will be anyway downgraded to X-1);
- if the programme cannot be considered as “sufficient for level completion” - some specific situations of the use of ISCED criteria (duration compensated by working experiences, case of sequential programmes) are explained in the ISCED operational manual (e.g. for ISCED level 5).

In the case of the completion of the programme “insufficient for level completion”, educational attainment should be allocated to ISCED level X-1, even if there are no programmes at that level in the country.

- **More examples of the use of the category “insufficient for level completion” may be found in the ISCED 2011 operational manual, in items concerning different ISCED levels.**

3. DATA COLLECTIONS

This section provides information on typical issues to be coped with during interviews. It reminds about the ISCED 2011 main reference (*in italic*) and presents “① Comments and clarifications”.

3.1 EDUCATIONAL ATTAINMENT FOR OLD PROGRAMMES

§88. *Statistics on educational attainment cover individuals of all age groups, some or many of whom may have completed education programmes or obtained qualifications which are different from those currently provided. In order to achieve comparability of indicators over time and across education cohorts, educational attainment should be classified on the basis of the characteristics of education programmes and recognised qualifications at the time of successful completion.*

① **Comments and clarifications**

Data collection on educational attainment must cover attainment in both current and past educational structures because the target population of surveys includes individuals of all age groups. In order to achieve comparability across countries and time, educational programmes should be classified on the basis of their characteristics at the time of completion. The classification according to the ISCED levels of current programmes that might (at national level) be perceived to be equivalent is considered bad practice since it does not reflect actual educational attainment.

The coding of educational programmes whose requirements have changed over time implies different guidelines depending on the data source:

- with respect to data derived from registers, "old" credentials and programmes should not be automatically re-allocated to the ISCED level of their "successor" credentials or programmes. Registers should aim to differentiate between qualifications and programmes before and after educational reforms.
- with respect to data collected through surveys, the data collection instruments should offer distinct response categories for "old" programmes/qualifications and their "successors" in order to allow a mapping of the old programme (its content) according to current ISCED criteria.
- data collection instruments should allow obtaining information on the highest educational level successfully completed independently of any other characteristics of the individual, such as occupation.

If some countries have already performed such re-allocations of educational programmes (according to national equivalence schemes rather than in coherence with ISCED criteria), the impact would need to be documented in the metadata (e.g. as % of tertiary educational attainment). However such practices should be avoided in future collections of data on educational attainment.

It should be highlighted that the integrated ISCED mappings will include from 2014 information (rows of the table) on the programmes and qualifications not existing anymore. Information of such programmes/qualification will be simplified comparing to information on current programmes/qualifications, e.g. with minimum requirement for the ISCED coding at 1-digit level only. These mappings should be used in all household/individual surveys, to facilitate and harmonise data collections.

3.2 FOREIGN QUALIFICATIONS

The part of the resident population with foreign qualifications is growing due to working and learning mobility. Currently, there are different practices across countries for classifying educational attainment of non-nationals. Interviewers might decide themselves during the interview at which level of educational attainment foreign qualification could be allocated to or might choose the category "non response".

The use of integrated ISCED mappings (to be made available for all countries) will make the classification of qualifications obtained abroad easier. Consultation of foreign ISCED mappings will be helpful for the design of surveys and most frequent foreign qualifications e.g. those of neighbour countries or countries of origin of important groups of non-nationals.

The best way to collect data on educational attainment of non-nationals in surveys is to ask first whether the highest qualification was obtained in the country or abroad and then the label of the certificate (and not the educational attainment level) - as recommended under the 'diploma approach' (see below). This will allow either listing to the interviewee the most frequent qualifications from a mapping of a given country or using an open question for post-coding. The later should however be limited as open questions are costly to treat. In case of difficulties, foreign qualifications might be compared with the national ones, using the criterion of access to a higher educational level in the country of the survey.

In countries using registers to report on educational attainment of individuals, foreign qualifications are often obtained via interviews. This help to avoid under-estimations if recording only national qualifications. On the one hand, country born people might have indeed obtained a higher degree abroad without notification into registers. On the other hand, the educational level of foreign-born people is not systematically recorded in registers.

It should be underlined that the classification in ISCED of foreign qualifications should not be confused with the official recognition of foreign diplomas. Reference to the recognition of diplomas is to be used only if the interviewee mentions that he/she succeeded in such a procedure (or of it is recorded in registers for countries using this method). In other cases, it would be too burdensome to use in interviews.

Sharing ISCED mappings will allow listing the main qualifications obtained abroad which are relevant in national LFSs (e.g. obtained in neighbour countries or countries of origin of important groups of non-nationals). This would in particular avoid giving interviewers broad guidelines for cases which would be rather frequent in national surveys and would save interview time. This is even more relevant in internet based interviews (e.g. an option could be included in the list of diplomas proposed: "if you obtained your highest diploma abroad, please chose in the following list (e.g. by country)").

This is to be done for populations with a significant impact on results. It would indeed avoid too large biases in results on educational attainment (due to interviewee or interviewer own interpretations) and treating too numerous replies given in the mode "open questions" (requiring expensive post-coding).

3.3 IMPORTANCE OF INFORMATION ON ORIENTATION OF EDUCATION COMPLETED

General education (from ISCED 2011 glossary): Education programmes that are designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare students for more advanced educational programmes at the same or higher ISCED levels and to lay the foundation for lifelong learning. General educational programmes are typically school- or college-based. General education includes education programmes that are designed to prepare students for entry into vocational education, but that do not prepare for employment in a particular occupation, trade or class of occupations or trades, nor lead directly to a labour market-relevant qualification.

Vocational education (from ISCED2011 glossary): Education programmes that are designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade or class of occupations or trades. Vocational education may have work-based components (e.g. apprenticeships, dual-system education programmes). Successful completion of such programmes leads to labour-market-relevant vocational qualifications acknowledged as occupationally-oriented by the relevant national authorities and/or the labour market.

① Comments and clarifications

It is highly recommended to gather statistics – and especially those concerning young people - not only about the level of educational attainment but also about the orientation (general or vocational) of the highest level of education completed (in particular in ISCED 3 and 4) as well as about the respective fields of these studies (what is very relevant for ISCED levels 5-8 where orientation is more difficult to define).

This information is particularly important for the analysis of:

- responsiveness of educational systems to labour market needs for skills and competencies,
- transition from education to work,
- matching skills with jobs,
- access to and inequalities in education,
- returns to education.

A. Collecting information in sample surveys on orientation of the educational programme completed by a person is an issue which calls for guidelines.

At EU level, in the EU-LFS and AES, coding of educational attainment at 2-digits level is requested at ISCED levels 3 and 4 and for recent graduates.

Information on orientation of the educational programme completed can be derived in the household/individual survey if detailed educational programmes completed (or qualifications) are investigated during the interview. This approach is proposed for the EU-LFS (variable HATVOC as a variable derived from HATLEVEL).

Using a "diploma approach" would guarantee the quality of this information (please see point 3.4). Asking interviewees for a distinction of completed education between general and vocational may pose the problem of the accuracy of the information provided by the interviewee. Derivation of the orientation from the information on concrete educational programme successfully completed is considered as the best solution.

B. Double qualifications at the same ISCED level

- In the case of vocational and general programmes completed at the same ISCED level (and concerning especially ISCED level 3), ISCED 2011 recommends to report the most recent qualification. This solution seems to be appropriate as in the majority of cases the vocational education (in general the most relevant on the labour market) is the most recent.
- In some countries, some educational programmes provide general and vocational qualifications at the same time. In such cases vocational educational attainment could be prioritised under the assumption that it is of more direct relevance for the labour market.
- In the case of two vocational qualifications, the most recent should be reported if the field of education is also collected.

C. Orientation in tertiary education: academic/professional

The first discussions at international level on this issue showed that both the utility and feasibility of having such distinction are questioned by many countries. For the moment, field of studies is the main characteristic of an education programme completed at tertiary level used in household surveys (see also the annex on the EU-LFS).

3.4 CODING OF EDUCATIONAL ATTAINMENT

Table 1 shows the coding proposed for educational attainment under ISCED 2011.

The annex presents the codes retained for data transmission of the EU-LFS results from the countries of the European Statistical System to Eurostat from 2014.

Table 1: ISCED 2011 coding of educational attainment

<p>0 Less than primary education</p> <p>01 Never attended an education programme 010 Never attended an education programme</p> <p>02 Some early childhood education 020 Some early childhood education</p> <p>03 Some primary education (without level completion) 030 Some primary education (without level completion)</p>	<p>5 Short-cycle tertiary education (1)</p> <p>54 General (1) (2) 540 Not further defined (1)</p> <p>55 Vocational (1) (2) 550 Not further defined (1)</p> <p>56 Orientation unspecified (1) (2) 560 Not further defined (1)</p>
<p>1 Primary education</p> <p>10 Primary</p> <p>100 Including recognized successful completion of a lower secondary programme insufficient for level completion or partial level completion</p>	<p>6 Bachelor's or equivalent level (1)</p> <p>64 Academic (1) 640 Not further defined (1)</p> <p>65 Professional (1) 650 Not further defined (1)</p> <p>66 Orientation unspecified (1) (2) 660 Not further defined (1)</p>
<p>2 Lower secondary (1)</p> <p>24 General (1)</p> <p>242 Partial level completion, without direct access to upper secondary education 243 Level completion, without direct access to upper secondary education 244 Level completion, with direct access to upper secondary education (1)</p> <p>25 Vocational (1)</p> <p>252 Partial level completion, without direct access to upper secondary education 253 Level completion, without direct access to upper secondary education 254 Level completion, with direct access to upper secondary education (1)</p>	<p>7 Master's or equivalent level (1)</p> <p>74 Academic (1) 740 Not further defined (1)</p> <p>75 Professional (1) 750 Not further defined (1)</p> <p>76 Orientation unspecified (1) (2) 760 Not further defined (1)</p>

<p>3 Upper secondary education (1)</p> <p>34 General (1)</p> <p>342 Partial level completion, without direct access to tertiary education</p> <p>343 Level completion, without direct access to tertiary education</p> <p>344 Level completion, with direct access to tertiary education (1)</p> <p>35 Vocational (1)</p> <p>352 Partial level completion, without direct access to tertiary education</p> <p>353 Level completion, without direct access to tertiary education</p> <p>354 Level completion, with direct access to tertiary education (1)</p>	<p>8 Doctoral or equivalent level (1)</p> <p>84 Academic (1)</p> <p>840 Not further defined</p> <p>85 Professional1</p> <p>850 Not further defined</p> <p>86 Orientation unspecified level (1) (2)</p> <p>860 Not further defined</p>
<p>4 Post-secondary non-tertiary education (1)</p> <p>44 General (1)</p> <p>443 Level completion, without direct access to tertiary education</p> <p>444 Level completion, with direct access to tertiary education (1)</p> <p>45 Vocational (1)</p> <p>453 Level completion, without direct access to tertiary education</p> <p>454 Level completion, with direct access to tertiary education (1)</p>	<p>9 Not elsewhere classified</p> <p>99 Not elsewhere classified</p> <p>999 Not elsewhere classified</p>

(1) Including successful completion of a programme at the given level sufficient for level completion or successful completion of a programme or a stage of a programme at a higher ISCED level insufficient for completion of the higher level.

(2) To be used in the absence of internationally agreed definitions of academic and professional orientations of programmes at ISCED levels 6-8

3.5 RECOMMENDATION FOR THE USE OF “DIPLOMA APPROACH”

There are different methods used across countries for the collection of information on educational attainment in sample surveys. The standard system illustrated below is widely practiced, while integrated systems have been developed only in few countries (like France or the United Kingdom).

(a) Standard question (refers to ISCED 97):

<p>What is the highest level of education you successfully completed?</p>
<p><input type="checkbox"/> No formal education or below ISCED1</p> <p><input type="checkbox"/> ISCED 1 - primary education</p> <p><input type="checkbox"/> ISCED 2 - lower secondary education</p> <p><input type="checkbox"/> ISCED 3 - upper secondary education</p> <p><input type="checkbox"/> ISCED 4 - post secondary education but not tertiary</p> <p><input type="checkbox"/> ISCED 5 - tertiary education, first stage</p> <p><input type="checkbox"/> ISCED 6 - tertiary education, second stage</p>

The question usually presents up to 20 categories of national educational levels, programmes or qualifications. For example, current EU-LFS asks about a minimum of 13 categories, while the manual on core variables in social surveys proposes the collection of a minimum of 7 categories as listed above.

(b) Integrated system (refers to ISCED 97):

Do you have any diploma or qualifications?	
<input type="checkbox"/> Yes	
If yes, please tick the highest diploma you obtained	
<input type="checkbox"/>	<i>From vocational upper secondary education (type ISCED 97 level 3c)</i>
<input type="checkbox"/>	<i>From general upper secondary education (type ISCED 97 level 3A)</i>
.....	
<input type="checkbox"/>	<i>Bachelor (+ field: e.g. law)</i>
<input type="checkbox"/>	<i>Master (+ field: e.g. sciences)</i>
<input type="checkbox"/>	<i>Doctorate (+field: e.g. economy)</i>
<input type="checkbox"/>	<i>etc. (exhaustive list)</i>
<input type="checkbox"/> No	
If no, which educational programme did you successfully complete?	
<i>(e.g. primary or lower secondary education when no certification exists)</i>	

Some countries prefer to ask for all diplomas obtained and derive the highest level from all qualifications obtained by the individual. Some others use two questions: on participation and on successful completion in highest ISCED programmes. Both approaches are equivalent of the integrated system presented above as long as a detail list of programmes and qualifications is proposed.

In case of numerous possible replies, the tool can pre-select a set of possible replies matching a given key work (e.g. bachelor). It is considered that such an approach could be implemented on the basis of the integrated ISCED mappings (for recent graduates and for qualifications which do not exist anymore).

The methods for measuring the educational attainment "Highest level of education successfully completed" are quite diverse across countries and surveys. The Eurostat Task Force on the improvement of Educational Variables in Household Surveys (EVHOS, working in 2008-2010) in cooperation with the OECD Network on Labour and Social Outcomes of learning (LSO) made some preliminary recommendations which allow formulating three main principles:

- (i) It is important to propose **precise questions to interviewees** to be accurate and short during interviews. Asking about diplomas obtained (credentials) would reduce the bias and burden which results from a more general question on the "highest level of education completed" (which may be understood as programmes attended and not always successfully completed).
- (ii) The growing number of qualifications obtained either in the country or abroad (related to students mobility, European Qualification Framework, etc.) might easily raise **issues** for both interviewers and interviewees **to assign a given diploma (facts) to aggregated education level categories** (variable). It is therefore easier to collect the information on the diploma obtained instead of asking the interviewer or interviewee to assign this diploma to an educational level. This avoids intensive training of interviewers, reduces bias and is an asset for new data collection modes such as internet questionnaires.
- (iii) The collection of detailed replies is facilitated by a wide use of computer assisted interviews nowadays. This allows **matching the diploma to the national educational classification and later to ISCED** for data transmission to international organisations (i.e. after the data collection). This also allows additional analytical perspectives (e.g. more flexibility in time series analyses, distinction of characteristics of the educational programme such as orientation - general or vocational).

Integrated systems of data collection on educational attainment fit these three objectives. It should be noted that the success of integrated systems in the improvement of international educational attainment data are highly correlated to the use of good mappings of programmes and qualifications, i.e. to convert the data collected in interviews into national and international education levels (ISCED). The improvement of mappings is of particular importance in this context.

As it is already practiced in some countries, information on diploma obtained can be completed by that on participation by the person in educational programmes not successfully completed. It would allow gathering data on drop-outs, which can be asked by surveys on specific issues related to education (e.g. EU Adult Education Survey).

4. METADATA

- Enhanced and structured **metadata** should be made available on data collection processes related to educational attainment of the population. This is a key requirement to allow proper monitoring of the quality and comparability of statistics at the international level and appropriate support to producers of educational attainment data.

The metadata on the data collection processes may concern:

- the questions used in the survey to capture the highest educational attainment level (e.g. wording, sequence of questions);
- level of detail available from the data collection (coding);
- the mapping used for the conversion of national codes into ISCED;
- information having impact on quality and comparability of data on educational attainment (e.g. breaks in series, time lags in registers, magnitude of proxy responses, amount and treatment of non-responses, classification of "foreign qualifications", etc.)

This information is highly relevant for the main national source used to report on the distribution of the population by educational attainment level. This would also concern any other source used to analyse outcomes of education (e.g. income) by educational attainment level.

- ISCED is a complex classification. The correspondence between the ISCED educational levels and the main national educational and training programs (or national classifications) should be accessible to the general public on a specific website or through inter-linked websites. (This is meant to widely disseminate concise information about the ISCED classification beyond the statistical system.)
- Sharing information on national practices of data collection on educational attainment (particularly on national classifications used for this purpose and their correspondence to the ISCED) would facilitate the coding of educational attainment of the most important groups of non-nationals living in a given country (an important issue, considering the growing global mobility of individuals).
- **The use of ISCED integrated mappings has a major role to play in the monitoring of the comparability across countries** and is the main tool for peer reviews.

Intermediate mappings were requested in 2011 to countries to facilitate implementation of ISCED 2011 - in the UOE data collection and in household surveys. In 2012, the mappings were limited to the recent qualifications, i.e. limited to the UOE coverage. In 2013, they will cover as well certain formal qualifications obtained from non-formal education or via validation of competencies. In 2014, ISCED integrated mappings will be completed with a part concerning old qualifications (having impact on results on educational attainment).

Table 2: ISCED integrated mapping - three main components (in rows of the table)

List of all educational programmes		ISCED level	Characteristics of the programme...	Qualification	ISCED educational attainment	LFS coding for educational attainment
Programme number	National name of the programme		Duration, access to higher level, etc.			
① PROG MAPPED through UOE ISCED mapping	Prog.01.01	100	.....	.....	100	100
					
	Prog.02.01					
					
	Prog.03.03	351	.....	.....	254	200
	
Prog.08.01		....			....
② PROG/PROCESS NOT SUITABLE for UOE ISCED mapping	Short prog. X				...	...
	Validation of competences				343	303

	Non-formal prog.Y					
③ PROG NOT EXISTING ANYMORE	Prog.U	...		....	...	...
	Prog.V				444	400

	Prog. Z					...

- ① Programmes which are currently included in the most recent UOE ISCED mapping of a given country
- ② Programmes which are not included in UOE ISCED mapping of a given country because they cannot be allocated to an ISCED level (e.g. duration of less than 6 months, process of validation of competences, non-formal programmes whose qualification are recognised in the formal education system).
- ③ Programme which do not exist anymore but which should be allocated to an ISCED level for statistics on educational attainment.

Table 3: Integrated ISCED mappings 2012 - UOE coverage (columns of the table)

1	Country
2	School year
3	Programme number (prog.<ISCED level> <number within level>)
4	National name of the programme
5	Descriptive name of the programme in English
6	Formal education programme (Yes/No/Not known)
7	ISCED-97 level
8	ISCED-2011 level
9	Programme orientation (General/Vocational)
10	Access to higher educational level (to which level, no)
11	Theoretical starting age
12	Theoretical duration of the programme
13	Theoretical cumulative years of education at the end of the programme

14	Enrolments (absolute)
15	Enrolments (% of ISCED level)
16	Code of credential in ISCMAP-QUAL
17	Main diploma(s), degree(s) and certificate(s) awarded
18	Descriptive name of the qualification in English
19	Number of graduates
20	Level of graduation
21	ISCED-97 level of qualification / educational attainment
22	ISCED-2011 level of qualification / educational attainment
23	LFS coding for educational attainment (ISCED-97)
24	LFS coding for educational attainment (ISCED-2011)
25	Notes

Note:

- Mappings using this structure were collected within the 2012 UOE data collection and are available on:

<https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp?FormPrincipal: idcl=FormPrincipal: id4&FormPrincipal: SUBMIT=1&id=4566f66f-1007-445d-b561-a06684c2f642&javax.faces.ViewState=rO0ABXVyABNbTGphdmEubGFuZy5PYmplY3Q7kM5YnxBzKWwCAAB4cAAAAAN0AAIxMnB0ACsvanNwL2V4dGVuc2lvbi93YWkvbmF2aWdhdGlvbi9jb250YWluZXIuanNw>

A slight revision of the structure of the ISCED mappings in terms of columns will be done in 2013 (when adding the 2nd part of the mapping) and in 2014 (to cover also old qualifications). The 2nd et 3rd part of the ISCED integrated mapping will be simplified in relation to the 1st part (current programmes and qualifications).

**ANNEX: Coding of the variables on educational attainment in the EU-LFS
(from 2014)**

Description of the codification for the variables 'HATLEVEL' and related to it in the EU-LFS from 2014²:

Name	Column	Periodicity	Code	Description	Filter/remarks
HATLEVEL	197/199	QUARTERLY		Educational attainment level¹⁾	Everybody aged 15 years or more
			000	No formal education or below ISCED 1	
			100	ISCED 1	
			200	ISCED 2 (incl. ISCED 3 programmes of duration less than 2 years)	
			302	ISCED 3 programme duration of 2 years and more, sequential (i.e. access to next ISCED 3 programme only)	
			303	ISCED 3 programme duration of 2 years and more, terminal or access to ISCED 4 only	
			304	ISCED 3 with access to ISCED 5, 6 or 7	
			300	ISCED 3 programme of duration of 2 years and more, without possible distinction of access to other ISCED levels	
			400	ISCED 4	
			500	ISCED 5	
			600	ISCED 6	
			700	ISCED 7	
			800	ISCED 8	
			999	Not applicable (child less than 15 years)	
blank	No answer				
HATYEAR	200/203	YEARLY		Year when this level was successfully completed	HATLEVEL=100-800
				The 4 digits of year when highest level of education was successfully completed are entered	
			9999	Not applicable (HATLEVEL ≠ 100 to 800)	
blank	No answer				
HATVOC	204	QUARTERLY		Orientation of this level	HATLEVEL = 300 to 400 and (15 ≤ AGE ≤ 34 or (AGE > 34 and REFYEAR - HATYEAR ≤ 15))
			1	General	
			2	Vocational	
			9	Not applicable (HATLEVEL ≠ 300 to 400 or (AGE > 34 and REFYEAR - HATYEAR > 15))	
blank	No answer				

² See Commission Regulation [No 317/2013](#)

HATFIELD	205/208	YEARLY		Field of this level	HATLEVEL
			0000-9998	<i>Level 1 of the classification of fields of education and training*</i>	= 300 to 800 and (15 ≤ AGE ≤ 34 or
			9999	Not applicable (HATLEVEL ≠ 300 to 800 or (AGE > 34 and REFYEAR - HATYEAR > 15))	(AGE > 34 and REFYEAR - HATYEAR ≤ 15))
			blank	No answer	

¹⁾ *Highest level of education successfully completed as defined by ISCED 2011, coding based on ISCED mappings to be delivered to Eurostat.*

** or subdivision or subdivisions of the classification of fields of education and training*

Please note that the new classification of fields of education and training is expected to be adopted by the General Conference of UNESCO in autumn 2013. It is foreseen that it will be implemented in all EU data collections from 2016.