

UNESCO OECD Eurostat (UOE) joint data collection – methodology

Statistics Explained

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This article describes the methodology of the joint collection of [education](#) data by the [United Nations Educational, Scientific and Cultural Organisation \(UNESCO\) Institute for Statistics \(UIS\)](#) , the [Organisation for Economic Cooperation and Development \(OECD\)](#) and [Eurostat](#) , referred to as UOE data.

This article is one of a set of background articles concerning the methodology of [education and training in the EU](#) and forms part of an online publication.

Introduction

The objective of the UOE data collection on education statistics is to provide internationally comparable data (mostly at national level, with some insights at the subnational level) on key aspects of formal education systems, specifically on the participation and completion of education programmes, as well as the cost and type of resources dedicated to education.

UOE data on education and training cover the main features of learning activities namely:

- the participation of individuals in education and training activities;
- education financing and teaching staff;
- outcomes of education; and
- learning mobility and foreign language learning.

More precisely, education and training statistics cover the following aspects:

- pupils and students enrolled and new entrants
- graduates
- student mobility
- education personnel
- education expenditure
- language learning

Coverage and mandate

Geographical coverage

Within the UOE data collection, Eurostat collects and disseminates data from the EU Member States, candidate countries and EFTA countries.

The OECD collects data from other OECD countries (such as Australia, Canada, Japan and the United States), while the UIS collects data from other participating countries.

The validated data are used by the three organisations.

Geographical detail

As well as collecting a broad range of national data, Eurostat collects regional data (generally at [NUTS level 2](#)) on i) the number of students by level of education, programme orientation and sex and ii) the number of students by age and sex.

Time coverage

The reference period for most non-monetary education data (such as students enrolled, entrants and personnel) is the year in which the academic year ends. The transmission to the European Commission has to be done by 30 September in year $t+2$; for example 2015 data collection represents the academic year 2013/14. However, data for graduates refer either to all graduates during a calendar year (year $t+1$) or to the academic year as defined nationally (year $t/t+1$). The transmission to the European Commission has to be done by 30 November in year $t+2$.

Data on students refer, in general, to the count on a given date at the beginning of the academic year, preferably at the end of the first month. Exceptions may be for pre-primary and tertiary levels of education, where enrolments can be counted as an average over several counting dates or as the count of individuals registered during the reference period.

Data on education personnel refer in general to a given date at the beginning of the academic year.

For expenditure data the reference period is the financial year, which in most cases is the calendar year, the exception being the United Kingdom where the financial year runs from 1 April to 31 March.

When expenditure and non-expenditure data are combined, for example when calculating expenditure per pupil/student enrolled, the non-expenditure data are adjusted to the reference period of the financial year by weighting the data for the school years overlapping the financial year.

Data available in Eurostat mainly cover the period from 1998, although some data on enrolments, graduates and education finance are available from 1990 or 1995.

Subject coverage

Type and duration of education

The UOE data collection covers formal education programmes that represent at least the equivalent of one semester (or half of a school/academic year) of full-time study.

Programmes or studies designated as 'adult education' or 'continuing education' are included only if the content is similar to regular educational programmes or lead to similar potential qualifications. For more information see the concepts and definitions below.

The data collection covers education which takes place entirely in educational institutions or is delivered as a combined school and work-based programme providing the school-based component represents at least 10 % of the study over the whole programme. Exclusively (initial and continuing) work-based training is not included in the UOE data collection.

Domestic coverage

The UOE data collection covers domestic educational activity, in other words education provided within a country's own territory regardless of ownership or sponsorship of the institutions concerned (whether public or private, national or foreign) or of the education delivery mechanism (whether face-to-face or at a distance).

In particular, all students studying within a country, including internationally mobile students from abroad, should be included in the statistics of the reporting country. Students who have left the reporting country to study abroad should not be included by the reporting country they have left, even where such students are partially or fully-funded by national or sub-national authorities. Concerning short exchange programmes (of at least three months but less than one academic year), students who remain enrolled in their home institution and where credits for successful completion of the study abroad are awarded by the home institution should be reported by the country of the home institution in which they are enrolled.

By contrast, educational activities which take place abroad — for example, in institutions run by providers located in the reporting country — should be excluded.

In cases of cross-border distance learning/e-learning, students should be reported by the country of the institution providing the service, not the country of residence of the student. Equally, students who commute across borders should be reported by the country where they are enrolled rather than where they are resident.

Legal basis

The basic legal act for education and training statistics is [Regulation \(EC\) No 452/2008](#) of 23 April 2008 concerning the production and development of statistics on education and lifelong learning¹. European Commission [Regulation \(EU\) No 912/2013](#) lays down the rules for the implementation of Regulation (EC) No 452/2008 in so far as it relates to the collection, transmission and processing of statistical data on education and training systems (referred to as domain 1).

Classifications

ISCED

The [international standard classification of education \(ISCED\)](#) is the basis for international education statistics. The current version is [ISCED 2011](#) which replaced [ISCED 1997](#). The [ISCED 2011 Operational Manual](#), prepared by the UIS, the OECD and Eurostat, provides guidelines for classifying national education programmes and related qualifications according to ISCED 2011. It was developed for national statisticians reporting data on education to international organisations and for all users interested in a better understanding of these data.

ISCED Levels of education

ISCED contains the classification of levels of education (and related educational attainment levels). Table 1 lists the levels of education used in ISCED 2011 with their codes and provides a [correspondence](#) to the equivalent codes used in ISCED 1997.

¹Note that this legislation does not concern exclusively the UOE data collection as it also provides the legal basis for the adult education survey and other statistics on education and lifelong learning.

Broad level	ISCED 2011 level	ISCED 2011 code		ISCED 1997 code
Low	Early childhood education	0	01	–
	Pre-primary education		02	0
	Primary education	1		1
Medium	Lower secondary education	2		2
	Upper secondary education (*)	3		3
	Post-secondary non-tertiary education (*)	4		4
High	Short-cycle tertiary education	5		
	Bachelor's or equivalent level	6		5
	Master's or equivalent level	7		
	Doctoral or equivalent level	8		6

(*) The contents of these levels have been modified slightly between ISCED 1997 and 2011.
Source: adapted from UNESCO

Table 1: Correspondence between ISCED 2011 and ISCED 1997 education levels Source: adapted from UNESCO

Non-finance education data up to reference year 2012 are based on ISCED 1997, while ISCED 2011 is used from the reference year 2013. Education expenditure data use ISCED 1997 until 2011 and ISCED 2011 from the reference year 2012. Due to the introduction of ISCED 2011 there is a break in series for most indicators.

ISCED programme orientation

In ISCED 2011, the orientation of a programme is a dimension used at levels 2–5, with the possibility to use it at ISCED levels 6–8. The two categories of orientation of programmes at ISCED levels 2–5 are general and vocational. At tertiary education levels (ISCED levels 6–8), the terms 'academic' and 'professional' can be used in place of 'general' and 'vocational' respectively.

General education programmes are designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same or a higher ISCED level and to lay the foundation for lifelong learning. General education includes education programmes that are designed to prepare participants for entry into vocational education but 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 programmes are designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Such programmes may have work-based components (such as 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.

ISCED-F fields of study

With the revision of ISCED 1997 in ISCED 2011, it was agreed that the fields of education should be examined in a separate process establishing an independent but related classification called the ISCED Fields of Education and Training (ISCED-F). ISCED-F classifies education programmes and related qualifications by field of study. Fields of education are defined as a subject taught in an education programme. The ISCED-F field of study refers mainly to fields of higher education. There are 25 fields of study organised in broad groups. Each group carries a number and this coding is used by UNESCO, OECD, Eurostat and the national statistical authorities within the EU. Although only the first two digits (the one-digit code is the broad field and the two-digit code is the narrow field) are used for international data collection, the fields of education and training manual released in 1999 (currently applicable within the UOE data collection) uses a three-digit code in a hierarchical system for classifying fields of education based on the two-digit level of ISCED 97.

Basic concepts and definitions

An online [glossary of education statistics](#) is available.

Formal education

Formal education is institutionalised, intentional and planned and provided by public organisations and recognised

private bodies. It consists primarily of [initial education](#) designed for children and young people before their first entry to the labour market. It also includes other types of education such as vocational, special needs and [adult education](#) provided they are recognised as part of the formal education system by the relevant national education authorities.

Early childhood education

Programmes at ISCED level 0, or early childhood education, are typically designed with a holistic approach to support children's early cognitive, physical, social and emotional development and introduce young children to organized instruction outside of the family context. ISCED level 0 refers to early childhood programmes that have an intentional education component. These programmes aim to develop socio-emotional skills necessary for participation in school and society. They also develop some of the skills needed for academic readiness and prepare children for entry into primary education.

There are two categories of ISCED level 0 programmes: early childhood educational development and pre-primary education. The former has educational content designed for younger children (in the age range of 0 to 2 years), whilst the latter is designed for children from age 3 years to the start of primary education.

Initial and adult education

Initial education is the education of individuals before their first entrance to the labour market, in other words when they will normally be in full-time education. It thus targets individuals who are regarded as children, youth and young adults by their society. It typically takes place in educational institutions in a system designed as a continuous educational pathway. Adult education is specifically targeted at individuals who are regarded as adults by their society to improve their technical or professional qualifications, further develop their abilities, enrich their knowledge with the purpose to complete a level of formal education, or to acquire, refresh or update their knowledge, skills and competencies in a particular field. This also includes what may be referred to as 'continuing education', 'recurrent education' or 'second chance education'. In most countries adult education is not recognised as part of the formal education system and should therefore be excluded from the UOE data collection. Formal adult education programmes included in the UOE data collection may be designed as second chance programmes for youth or adults and offered in the same or similar formal settings as initial education. They do not have the same typical entry age as equivalent programmes in initial education and may have a different, usually shorter, duration. Formal adult education programmes should be assigned to the most appropriate ISCED levels. They should not be treated as a separate level of education.

Programme and level completion/attainment

Successful completion of an education programme is the achievement of the learning objectives of the programme typically validated through the assessment of acquired knowledge, skills and competencies. Successful completion of a programme is usually documented by the award of an educational qualification.

Completion of an ISCED level is the successful completion of an education programme sufficient for level completion.

Educational institutions

Educational institutions are defined as entities that provide either educational core or peripheral goods and services to individuals and other educational institutions.

Instructional educational institutions are those that provide educational programmes for students as their main purpose (for example schools, colleges, universities) that fall within the scope of education statistics. Such institutions are normally accredited or sanctioned by the relevant national education authorities or equivalent authorities. Educational institutions may also be operated by private organisations, such as religious bodies, special interest groups or private educational and training enterprises, both for profit and non-profit.

Non-instructional educational institutions are educational institutions that provide education-related administrative, advisory or professional services for individuals or other educational institutions, although they do not enrol students themselves. Entrants and graduates

New entrants to a level of education are students who, during the course of the academic year, enter for the first time any programme in a given level of education, irrespective of whether the students enter the programme at the beginning or at an advanced stage of the programme.

A graduate is a person who, during the reference school or academic year, has successfully completed an education programme.

Educational personnel

Educational personnel comprise all those employed in educational institutions covering both instructional and non-instructional institutions. Educational personnel can be classified according to their primary or major functions performed into four main functional categories: instructional; professional support for students; management/quality control/administration; maintenance and operations.

Intensity of participation: full-time and part-time students and teachers

Both the intensity of participation of students and the employment status of educational personnel can be classified as either full-time or part-time according to similar principles and their total numbers (headcount) can be expressed in [full-time equivalents \(FTEs\)](#) .

Students should be classified between full-time and part-time on the basis of the intended study load of the student within the reference school or academic year. Educational personnel should be classified according to their contractual working hours. Comparison should be made with the national norms or conventions at the given level of education.

Education finance

In practice, total expenditure encompasses the expenditure for all programmes from pre-primary level of education (ISCED 02) to (ISCED 8); however, many countries are able also to provide data on early childhood development (ISCED 01). Moreover, it includes the expenditure reported in the UOE data collection on education statistics that could not be allocated by level.

Total expenditure comprises current and capital expenditure. Current expenditure comprises personnel expenditure and other current expenditure.

Total public expenditure on education includes i) direct public funding for educational institutions, ii) intergovernmental transfers for education and iii) transfers or other payments from governments to [households](#) and [enterprises](#) (including non-profit organisations). Generally, the public sector funds education either by bearing directly the current and capital expenses of educational institutions (direct expenditure for educational institutions) or by supporting students and their families with scholarships and public loans as well as by transferring public subsidies for educational activities to private enterprises or non-profit organisations (transfers to private households and enterprises). Both types of transactions are reported as total public expenditure on education.

Expenditure on institutions is not limited to that made on instructional services, but also includes expenditure on ancillary services for students and families, where these services are provided through educational institutions. At the [tertiary level](#) , spending on research and development can also be significant and is included, to the extent that the research is performed by educational institutions. As such, expenditure on institutions includes expenditure on core educational goods and services, such as teaching staff, school buildings, or school books and teaching materials, and peripheral educational goods and services such as ancillary services, general administration and other activities. Education expenditure on institutions cover schools, universities and other public and private institutions involved in delivering or supporting educational services.

Accounting conventions

Data on educational expenditure are compiled on a cash accounting rather than an [accrual](#) accounting basis. As such, expenditure is recorded in the year in which the payments occurred. This means in particular that:

- capital acquisitions are counted fully in the year in which the expenditure occurs;
- depreciation of capital assets is not recorded as expenditure, though repair and maintenance expenditure is recorded in the year it occurs.

Expenditure on student loans is recorded as the gross loan outlays in the year in which the loans are made, without netting-off repayments from existing borrowers.

Data collection tables and comparability of collected data

Data collection

UOE data are provided by reporting countries in standard tables. The preparation of the data collection tables is guided by the search for a common denominator between the needs of the UIS, the OECD and Eurostat. This common denominator is reflected in the UOE tables on students, new entrants, graduates, educational personnel, finance, class size and the ISCED mappings: the latter is a table showing for each country the relation between national programmes, qualifications and attainment levels and the ISCED levels. In addition there are Eurostat specific tables covering data on regional enrolment and on foreign language learning.

The UOE data collection is an administrative data collection: the national data collection in most countries is exhaustive and in some cases is based on extractions from administrative registers.

Comparability

Mapping of national education systems

Education systems differ between countries but the use of a common classification (ISCED) makes it possible to compare educational levels in spite of these differences, although the differences may affect certain figures. Degree structures differ between countries: to what extent students qualify for and receive more than one qualification differs between countries, as does the length of studies required to obtain a degree.

Each country provides (and updates annually) a [mapping](#) of their national education systems to the standard classification.

Combination with population statistics

In indicators on participation rates, enrolment statistics are combined with population statistics. The reference date for ages is the same (1st of January) but differences in data collection dates or methodologies may result in slight differences, which affect the participation rates. Percentages above 100 percent can be due to such differences, but can also appear because of inflows or outflows of students, as population data are based on residence whereas education data on enrolment. In some countries, where the outflow of students is substantial (for example in Cyprus and Luxembourg), specific notes are added in the tables, but other countries' figures may also be affected.

Different concepts used for the country of origin in learning mobility data

The country of origin in the learning mobility data should, in principle, refer to the country of prior secondary education. However, until the 2015 reference year countries might use country of prior residence or citizenship or another concept instead. From the 2016 reference year onwards all countries should report data according to the country of prior education. Information on the specific definition currently used by countries is available in [Footnotes — Learning mobility — students and graduates](#).

Source data for tables and graphs

- [UOE methodology: table](#)

View this article online at [UNESCO OECD Eurostat \(UOE\) joint data collection – methodology](#)

Notes

Explore further

Other articles

- [Education and training in the EU — facts and figures](#) (online publication)
- All pages on [education and training](#)

Database

- [Education and training \(educ\)](#) , see:

Participation in education and training (educ_part)

 Pupils and students - enrolments (educ_uoe_enr)

 Pupils and students - entrants (educ_uoe_ent)

 Learning mobility (educ_uoe_mob)

 Education personnel (educ_uoe_per)

 Education finance (educ_uoe_fin)

 Education and training outcomes (educ_outc)

 Graduates (educ_uoe_grad)

 Languages (educ_lang)

 Language learning (educ_uoe_lang)

 Education-administrative data until 2012 (ISCED1997) (educ_uoe_h)

Thematic section

- [Education and training](#)

Publications

- [Key data on education in Europe 2012](#) — statistical book

Selected datasets

- [Education and training \(t_educ\)](#) , see:

Participation in education and training (t_educ_part)

 Learning mobility (t_educ_uoe_mob)

 Education personnel (t_educ_uoe_per)

 Education finance (t_educ_uoe_fin)

 Education and training outcomes (t_educ_outc)

Methodology

Metadata

- [Education-administrative data until 2012 \(ISCED1997\)](#) (ESMS metadata file — educ_uoe_h)
- [Education](#) (ESMS metadata file — educ_uoe_enr)

Footnotes for specific datasets

- [Education finance](#)
- [Education personnel](#)
- [Entrants](#)
- [Graduates](#)
- [Language learning](#)
- [Learning mobility — students and graduates](#)
- [Pupils and students — Enrolments](#)

Other methodological information

- [Definitions and methodological requirements for each year's data collection](#) (including the Eurostat data collection on regional enrolments and foreign language learning)
- [Glossary of education statistics](#)
- [Mapping of national education systems to ISCED](#)
- [UOE — EU implementation manuals and further methodological information](#)

External links

- [European Commission — An agenda for new skills and jobs](#)
- [European Commission — Education and training — strategic framework for education and training](#)
- [European Commission — Education and training — vocational education and training](#)
- [UNESCO education for the 21st century](#)
- [UIS questionnaires](#)
 - [UIS education data](#)
- [OECD education](#)
- [OECD education data](#)