



Internationally comparable statistics on education, training and skills: current state and prospects

Introduction

Internationally comparable data on education, training and skills have acquired particular importance with the growing together of European countries and the implementation of common EU policies and strategies. This data are also key to comparative research on education and training that aims at establishing an overview of education and training across countries.

Political and research interest in such data and the recognition of their key role for (European) economic and social policies are relatively new. Most developments in internationally comparable education and training statistics started in the 1990s. Therefore, international sources do not always (yet) provide the information required or long time series. Nevertheless, most sources are adapted constantly to cover upcoming needs. New sources and surveys are designed and the geographical coverage of international data is widening constantly. A number of research projects have also led to new concepts, methods, data and indicators that can be used by international organisations to improve available data and design new surveys (1).

Despite the substantial progress made in developing international statistics and indicators, missing or insufficient data and statistics still impede evidence-based policies, research analysis and informed decisions by individuals (e.g. for their educational or occupational choices). Indeed, comparable data on education, training and skills still suffer some drawbacks:

□ a considerable set of key data needed by policy-makers and researchers is missing;

□ many available data have not yet been fully exploited;

□ many limitations exist in comparing data across countries and over time.

Cedefop's research and policy reports (2), for example, have discussed in detail several of these problems. The Maastricht Study (Leney et al., 2004) (3) has also analysed, in a differentiated way, existing data and their limitations for assessing progress made by Member States in achieving the Copenhagen objectives for VET.

Data required for policy coordination at European level

New methods of policy coordination at European level require structured and continuous support in the form of statistical indicators and benchmarks. Therefore, closing the knowledge gap about comparable statistics has become a priority for the European Union.

The Lisbon conclusions defined the open method of coordination (OMC) as a means of spreading knowledge of best practices and achieving greater convergence towards the main EU goals while respecting the breakdown of responsibilities envisaged in various EU treaties. The OMC is a new form of cooperation for the Member States, based on a fully decentralised approach relying on variable forms of partnership and designed to help them to progressively develop their own policies. It is based essentially on:

□ identifying and defining jointly the objectives to be reached (benchmarks);



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Comparable statistics on education, training and skills are not only used by research and analysis to provide explanation and evidence of the functioning of European labour markets and of education and training systems, but also to construct indicators comparing EU Member States, comparing the EU with competitors and assessing the achievement of goals and benchmarks. Although substantial progress has been made, some essential data gaps still remain on issues such as expenditure on vocational education and training (VET), skill mismatches, outcomes of education and training systems, skill and competence levels of populations. Additionally, available data have various drawbacks that limit comparisons across countries and over time, existing sources are not always exploited sufficiently. The article aims to raise awareness of missing key data, and to increase transparency about available data sources, their potential and limits. In this respect, the annex gives a comprehensive overview of existing and forthcoming data sources.



- commonly-defined yardsticks (statistics, indicators) enabling Member States to know where they stand and to assess progress towards the set objectives;
- cooperation tools to stimulate exchange and dissemination of good practices. ⁽⁴⁾

The OMC is applied in the field of education and training. It aims at stimulating mutual learning processes using indicators and benchmarks, comparing best practices and organising periodic monitoring, evaluation and peer reviews.

Following this policy need, the Maastricht Communiqué (2004) identified 'the improvement of the scope, precision and reliability of VET statistics' as a priority, arguing that 'adequate data and indicators are the key to understanding what is happening in VET and what additional interventions and decision-making are required by all parties involved'. In parallel, the setting up of the standing group on indicators and benchmarks (SGIB) by the European Commission ⁽⁵⁾ was an important step not only in extending the use of available data and statistics, but also in initiating improvements in their coverage and quality. It is also encouraging that the Commission has just established, in the Joint Research Centre at Ispra, a research unit on lifelong learning with a focus on data and indicators.

Assessment of current comparable data provision

The table annexed presents the different sources at international level that provide comparable data on education, training and skills. In this section these sources are assessed in the light of current policy and research needs for comparable data and some methodological drawbacks are identified to provide directions for future research and development.

Policy and research needs for comparable data on VET, learning and skills

Combining policy and research need analysis with a review of the different sources identifies several information gaps and areas for improvement in current comparable data provision ⁽⁶⁾.

Data on expenditure on, and investment in, education and training needs to be refined to distinguish between types of expenditure (in initial and continuing vocational training; in VET and general education), between public and private sources of funding (including individuals), between expenditure on institutions and other kinds of expenditure (e.g. learning materials, accommodation and commuting costs). According to Leney et al. (2004) there is very little information on expenditure on initial VET and what we have is not satisfactory. Some data may be provided by countries' administrations and international sources but expenditure on initial VET is usually included in expenditure on (all) educational institutions. The current indicator of public expenditure on education as a percentage of GDP, provided by the Unesco-OECD-Eurostat (UOE) questionnaire, does not distinguish type of education (VET versus general education). Expenditure on continuing vocational training (CVT) is currently restricted to companies: information on costs of CVT courses provided by enterprises can be obtained from continuing vocational training survey in enterprises (CVTS) but data is limited to sectors of economic activity covered and do not include other forms of training. Public expenditures in active labour market policy measures - including training - are available from the labour market policy data collection (Eurostat) and the OECD ⁽⁷⁾ labour market programme database. Finally, there is not much information on individual or family expenditure on education and for initial and continuing VET, in particular.

Simple indicators such as VET participation and graduation rates are currently not produced easily using the UOE questionnaire data although they would contribute to better understanding of factors contributing to reducing drop-out rates and supporting more young people to complete upper secondary education. Furthermore, indicators of completion of educational programmes duplicate each other and results are inconsistent. The two main sources on enrolment and educational attainment: the UOE data collection and the EU labour force survey (LFS) lack comparability, leading to major discrepancies, particularly when comparing upper secondary graduation at typical age (UOE) and youth educational attainment (LFS), reaching 18 % or more in some countries (Leney et al., 2004). Data on transitions

⁽¹⁾ As an example, the site Research on Lifelong Learning attempts to provide a structured dissemination channel between researchers/expert educational statisticians and the European Statistical System by discussing results of comparative research projects that developed new statistical concepts, methods and/or data (<http://www.researchonlifelonglearning.org/>).

⁽²⁾ Information on the policy report and the three research reports published so far (1998, 2001, 2005) can be found on Cedefop's European Training Village (www.trainingvillage.gr) in the section Projects and networks: Policy report or Research laboratory.

⁽³⁾ Leney, T. et al. Achieving the Lisbon goal: the contribution of VET: final report for the European Commission. 15.10.2004. Available from www.refernet.org.uk/documents/Achieving_the_Lisbon_goal.pdf [cited 13.9.2005]. A synthesis report has been published by Cedefop: Tessaring, M.; Wannan, J. Vocational education and training - key to the future: Lisbon-Copenhagen-Maastricht: mobilising for 2010. Luxembourg: EUR-OP, 2004.

⁽⁴⁾ http://europa.eu.int/comm/education/policies/pol/policy_en.html#methode; detailed work programme on the follow-up of the objectives of education and training systems in Europe (Council of the European Union, 2002).

⁽⁵⁾ The SGIB consists of experts proposed by the Member States and of other experts designated by the Commission.

⁽⁶⁾ The main characteristics of the data sources mentioned below are detailed in the table at the end of the article, including abbreviations.

⁽⁷⁾ Organisation for Economic Co-operation and Development.



of VET graduates to the labour market, post-secondary or higher education, as compared to graduates from other pathways, are also not currently available from a standard source. The data from the ad hoc module on transition integrated in 2000 in the LFS are not yet fully exploited.

More detailed data on mobility – not only geographical but also occupational, sectoral and social/intergenerational – are necessary to understand the dynamics of employment and unemployment in the European labour market. However, the LFS does not allow the degree of data desegregation necessary to study these issues in detail due to sample size limitations. It would also be useful for research if more detailed characteristics of unemployed people (particularly long-term unemployed) and of the ‘hidden unemployed’⁽⁸⁾ were available from the LFS. There is also no specific comparable data source on skill shortages and mismatches (e.g. qualification requirements of vacancies or skill needs analysis by sectors or occupations).

Detailed data on VET teachers, trainers, tutors and other staff involved in training, their individual characteristics (age, gender, skills, etc.), earnings, status, roles and duties are required given the emphasis on the profession in EU and national policies. Currently, only information on personnel in educational programmes is available from the UOE questionnaire.

Overall data on outcomes of VET, education and lifelong learning⁽⁹⁾ to assess the efficiency and effectiveness of education and training systems, programmes and measures are missing. Currently there is no adequate source at European or international level to analyse these issues. The OECD programme for international student assessment (PISA) is a step in this direction as it measures students’ skills in selected domains and draws conclusions on the factors influencing the performance of various education and training systems. However, currently there is no way to assess the specific outcomes of VET. The OECD international adult literacy survey (IALS) and the adult literacy and life skills survey (ALL) measure adult performance in selected skill domains and relate it to a number of labour market success variables⁽¹⁰⁾. This kind of analysis, relying on skills levels, gives a better indication of the benefits of education and skills than the

educational attainment level used in indicators derived from the LFS. Nevertheless, as is the case for PISA, the assessment of adult performance does not specify VET in relation to general education. Also it is limited to basic skills domains, as reliable and valid direct measurement exists currently only for literacy, numeracy and analytical reasoning.

Detailed data on lifelong learning are needed, covering types, subjects and duration of courses, training providers (including micro-enterprises, public service, etc.), characteristics of participants and non-participants, and impacts on further life, career and participation in learning activities. Data should also include ‘non-traditional’ forms of learning, such as self-organised, distance learning, e-learning, etc. The current LFS structural indicator on lifelong learning, with information on participation in a period of four weeks prior to the survey, underestimates the extent of adult participation. The CVTS is restricted to company-provided continuing training (enterprises of at least 10 employees), and to employed people. It excludes the public sector and some industries because of difficulties with data collection. Data on participants in CVT do not indicate individual characteristics of participants (except gender). They also exclude more informal and non-formal work-related learning such as job rotation or quality circles to cover only CVT courses. Nevertheless, the forthcoming adult education survey should resolve part of the information gap on lifelong learning.

Education and training: inputs and outcomes

Current sources provide mainly information on the input to education and training (participation, expenditure, provision, time, etc.). Only a few sources – mainly LFS and OECD – provide data on outcomes (educational attainment of populations, drop-outs, skill levels, earnings, etc.). Furthermore, most sources do not provide a clear and analytical picture of the relationship between inputs and outcomes, often because one source does not cover or focus on both⁽¹¹⁾.

Developing better data sources and indicators on the outcomes of various forms of education, training and skills would contribute to providing crucial data on vulnerable and disadvantaged groups and to giv-

⁽⁸⁾ People who would like to work under certain conditions but are not registered unemployed (Descy and Tessaring, 2001, p. 240).

⁽⁹⁾ Including non-economic benefits and externalities.

⁽¹⁰⁾ A programme for international assessment of adult competences (PIAAC) is also under discussion between the OECD secretariat and member countries.

⁽¹¹⁾ The Eurobarometer surveys complete the current picture with some information on citizens’ opinions regarding lifelong learning and vocational training.



ing indications on priority areas for policy intervention and learning provision. Current effort in this respect should be extended and more systematically supported by the EU and other international institutions; extensive research programmes on the issue should be financed.

A fragmented picture of education, training and skills

Such international sources as exist provide a fragmented rather than a comprehensive view of education and training. They only allow analysis of single aspects because information across sources is difficult to combine. Moreover, in many instances results from different sources provide different pictures of the same issue. This is due to several reasons:

- ❑ sources focus on different subjects (e.g. labour force characteristics in the case of LFS versus provision of training to employees for the CVTS);
- ❑ sources use different definitions of education, training or skills (depending on the unit, the subject, etc.)
- ❑ sources refer to different statistical units (e.g. education programme as in the UOE questionnaires, enterprises in CVTS, households in LFS, individuals in IALS);
- ❑ sources have a different periodicity (some data are available annually, others over a longer cycle);
- ❑ sources have different country coverage;
- ❑ in most sources, education, training or skills are not the main subject but just one aspect covered, which leads to limited coverage of education and training issues;
- ❑ finally, reliability cannot always be ensured if data refer to a small number of units or if various characteristics are combined (e.g. gender + skills + age + country + ...).

There are also limitations in obtaining or interpreting time series resulting from changes in concepts and definitions. For instance, the benchmarks 'early school leavers' and 'lifelong learning' were strongly influenced by major methodological modifications made by Member States over the past years to achieve harmonisation. For example, in 2003,

France adjusted the reference period for participation in lifelong learning from one to four weeks. This doubled the participation rate compared with previous years. Comparisons are further hampered by the fact that countries have implemented changes at different times, thus making comparisons for a given year difficult (Leney et al., 2004).

Expected developments in future comparable data provision

Up to 2010, several new sources and/or survey cycles will be launched and will provide new data:

- ❑ the third CVTS (2006) will allow comparisons with data gathered in 1994 and 2000 and the identification of trends regarding training in enterprises;
- ❑ the adult education survey (AES, 2005-07) will provide comparable European data on participation in various forms of learning as well as obstacles to and attitudes towards learning;
- ❑ the EU-survey on income and living conditions (EU-SILC, 2004 onwards), is a longitudinal survey including variables related to income, poverty, social exclusion, living conditions, employment, health and education and training;
- ❑ the household budget survey (HBS, 2006), including education consumption expenditure, should provide further insights into households and individual spending on education;
- ❑ the third round of PISA (2006), will cover 58 countries and therefore provide a better understanding of the factors influencing the performance of education and training systems;
- ❑ the new OECD programme for international assessment of adult competences (PIAAC 2008-09), will pursue the efforts to measure the level of the adult population in selected skill domains while also assessing the use of selected skills in the workplace;
- ❑ the fourth trends in international mathematics and science study (TIMSS 2007), will pursue this cycle of internationally comparative assessments and provide data about trends in mathematics and science achievement over time;



□ the second information technology in education study (SITES 2006) will focus on the impact of investments in ICT in education.

Waiting for these new data, a few sources available at European or international level could be exploited or exploited better as their full potential for analysis has not been investigated yet. This is, for instance, the case for the second continuing vocational training survey in enterprises, the ad hoc modules on transition and on lifelong learning included in the LFS in 2000 and 2003 respectively, the labour cost survey, the time use surveys, the labour market policy data collection and the OECD ALL survey. Although this will not provide the complete picture needed, nor directly address the gaps identified above, this may still provide new insights and understandings.

Conclusions

Despite significant progress in the provision and use of comparable data on education, training and skills, further developments at EU and international level are hampered by a lack of strong guidance and cooperation. The concrete roles and responsibilities of the various actors – Member States, several Directorates General of the European Commission, Eurostat, Cedefop, the European Training Foundation and other agencies – are not always clear and distinct. Thus, possible double work and deficits in cooperation, including with other international bodies such as OECD, Unesco or the International Labour Office, reduce the effectiveness and coherence of the process of data improvement.

The process of adapting current data sources and of developing new ones at European and international level should not only aim at filling gaps and covering upcoming needs.

It should also have as an objective to improve methods and definitions across sources to form a congruent picture of lifelong learning in the EU and beyond.

One should also be aware that the provision of data specific for VET is not always an efficient option given the high survey and analysis costs and the relatively limited use of this information. Gathering data on VET should be embedded in the whole process of getting more reliable information on lifelong learning rather than a separate exercise.

Finally, the use of comparable European and international data by the research community is not as widespread as it could be. This is partly because comparable data may lose precision in the process of harmonisation; developing common concepts and definitions sometimes leads to deciding on lowest common denominators. However, the two main reasons may well be the difficulty in accessing the data and the lack of knowledge of existing data sources and their potential. In this respect, it is useful to note that Eurostat has recently provided free access to the New Cronos database where a number of predefined statistical tables and indicators are available, including structural indicators used in the framework of the Lisbon agenda ⁽¹²⁾ ⁽¹³⁾. Additionally, researchers may request from Eurostat access to subset microdata ⁽¹⁴⁾. The OECD also provides access to some datasets to the research community.

We hope that this paper will not also only increase transparency of various data sources and promote their usage, but also encourage researchers to have a share in their further improvements and in new developments.

⁽¹²⁾ http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=EU_MAIN_TREE&depth=1

⁽¹³⁾ The availability of (explanatory) metadata eases the use and interpretation of the statistics.

⁽¹⁴⁾ http://epp.eurostat.cec.eu.int/portal/page?_pageid=1913,32879116,1913_32879144&_dad=portal&_schema=PORTAL.



Main European and international data sources on VET, education and skills				Annex 1
Data source	General subject	Statistical unit Periodicity Coverage	Key subjects related to VET and lifelong learning	Additional remarks
UOE questionnaire (UIS [Unesco Institute of Statistics]/OECD/ Eurostat)	Initial education and training	Educational programme Annual (since 1992) All countries covered by the three organisations (EU 25, EEA, OECD countries, candidate countries, south-east European countries).	Enrolment, entrants, graduates, educational personnel, public expenditure in educational programmes (taking place at least partly in schools), class size. Structural indicator 'Spending on human resources': Public expenditure on education as a percentage of GDP. Structural indicator 'Science and technology graduates': Tertiary graduates in science and technology per 1 000 of population aged 20-29 years. Long-term indicator: Pupils in upper secondary education enrolled in vocational stream.	– Secondary data from national administrative sources; – follows the ISCED97 ⁽¹⁵⁾ (1998-2003) and ISCED76 (1992-97); – breakdowns possible by level of education, sex, age, type of curriculum (general, vocational), mode (full-time, part-time), type of institution (public, private) field of study, nationality; – Eurostat collects further information for EU countries by region and on foreign language learning (Eurostat education questionnaires).
Continuing Vocational Training Survey (CVTS) (Eurostat)	Continuing vocational training (CVT) and initial vocational training (IVT) in enterprises	Enterprise with at least 10 employees in NACE sections C-K, O ⁽¹⁶⁾ Reference years: 1993, 1999; from 2005 onwards every five years (regulations) 1999: EU 25 (except Cyprus and Slovakia), Bulgaria, Norway, Romania 1993: EU 12.	CVT: Training policies, organisation and management of CVT, types of CVT, other forms of CVT beyond courses, participation, training hours, cost, fields and providers of CVT. IVT: Participants, cost.	– Breakdown of participants/hours by sex, of hours by external/internal courses, of costs by direct and indirect costs; – extension to IVT from 2005 onwards; – inclusion of missing NACE sections and enterprises with fewer than 10 employees not compulsory; – access to micro-data might be granted.
Adult Education Survey (AES) (Eurostat)	Participation in adult learning	Individual, age: 25-64 first round 2005-2007 EU Member States (21), Romania, Switzerland	Participation in formal/non-formal education and training inside/outside working hours, methods and subjects of informal learning, access to information, obstacles in participation, attitudes towards learning, use of ICT, self-reported language skills, participation in cultural and social activities.	– Different ways of implementing in countries (separate survey (13), inclusion of core AES in existing surveys (8), registers (2)); – follows ISCED97, LFS and ILO definitions/classifications; – breakdown by sex, age groups, level of education, employment status; – legal basis concerning statistics on lifelong learning under development.
Labour Force Survey (LFS) (Eurostat)	Labour market characteristics (e.g. employment, unemployment, inactivity, hours of work, occupation) and sociodemographic characteristics (e.g. sex, age, education) of the population	Individual (at least 15 years old) and household annual and quarterly data (since 2003) EU Member States, EFTA, Bulgaria, Romania (EU-10 since 1983, EU 15 since 1995, EU 25 since 1999/2000)	Revised core module on education (2003): participation in regular education and training, participation in courses and other taught activities, educational attainment. Structural indicator 'LLL': Percentage of the adult population aged 25 to 64 participating in education and training (whether or not relevant to the respondent's current or possible future job) in the four weeks preceding the survey. Structural indicator 'Early school leavers': Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training. Long-term indicators: – Population aged 20-24 having completed at least upper secondary education – Unemployment rates of the population aged 25-59 by level of education – Population aged 25-64 having completed at least upper secondary education.	– Follows ILO definitions and recommendations; – education data follows ISCED97; – breakdown by age, gender, nationality, labour force status; – some data only for people up to 64 years old people; – access to micro-data might be granted.
Labour Force Survey-ad hoc module on lifelong learning (Eurostat)	Adult learning	Individual (at least 15 years old) In 2003 EU Member States, Bulgaria, Iceland, Norway, Romania, Switzerland	Educational attainment, participation in/outside formal education and training, fields of education and training.	– Breakdown by age, gender, nationality, labour force status; – access to micro-data might be granted.
Labour Force Survey-ad hoc module on transition (Eurostat)	Transition of young people from education to working life	Individual aged 15-35 In 2000 EU 15, Hungary, Lithuania, Romania, Slovenia, Slovakia	Employment/unemployment, occupational status, social origin, educational attainment, job mismatch.	– Breakdown by age, gender, nationality, labour force status; – repetition in 2006 under discussion.

⁽¹⁵⁾ http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm

⁽¹⁶⁾ http://europa.eu.int/comm/eurostat/ramon/other_documents/intro_cpa1996/en.cfm



Data source	General subject	Statistical unit Periodicity Coverage	Key subjects related to VET and lifelong learning	Additional remarks
Community statistics on income and living conditions (EU-SILC) (Eurostat)	Income, poverty, social exclusion, living conditions, labour information, activity status	Individual (at least 16 years old) and household Annual from 2003/2004 onwards EU Member States; Iceland, Norway, Turkey from 2005	Educational attainment, current education activity, year when highest level of education was attained.	<ul style="list-style-type: none"> - Introduced to replace the ECHP (see below); - sociodemographic background variables; - cross-sectional and longitudinal data; - access to micro-data might be granted (delay of at least two years to the reference period).
European Community Household Panel (ECHP) (Eurostat)	Income, poverty, social exclusion, living conditions, employment, education and training, health	Individual (at least 16 years old) and household Annual 1994-2001 EU Member States, Iceland, Norway, Switzerland, new Member States, Bulgaria, Romania, Turkey	Participation in education and training, general education (duration, level), vocational training (duration, type, objective), educational attainment/age, language skills.	<ul style="list-style-type: none"> - Sociodemographic background variables; - longitudinal data; - follows ISCED76; - access to micro-data might be granted.
Labour Cost Survey (LCS) (Eurostat)	Level, structure and short-term development of labour costs	Enterprise or local unit with at least 10 employees, NACE sections C-K Four-yearly (since reference year 1996 according to regulation) EU Member States, Bulgaria, Iceland, Norway, Romania	Wages of apprentices, employers' contributions for apprentices, vocational training costs (excluding costs for apprentices).	<ul style="list-style-type: none"> - NACE sections A, B, L, O included in some countries; - LCS is part of the system on labour cost statistics.
Household Budget Survey (HBS) (Eurostat)	Household consumption expenditure on goods and services	Household every 5-6 years since 1988, next reference year is 2005 EU Member States, Bulgaria, Romania (1999)	Education consumption expenditure.	<ul style="list-style-type: none"> - Harmonisation of non-harmonised national data on consumption expenditure of private household; - breakdown by demographic and socioeconomic background variables; - low comparability across years; - low comparability across countries for education services; the variable may not be included in 2005.
Harmonised European Time Use Surveys (HETUS) (Eurostat)	Structure of time use, participation in activities, daily rhythm of the population	Individual (age varies across countries) Collected once for survey waves between 1998-2002 EU Member States (18 currently covered), Bulgaria, Norway, Romania	Time spent on education and training (classes and lectures, free time study).	<ul style="list-style-type: none"> - Statistics are based on non-harmonised national time use surveys; - breakdown by age groups, employment status, level of education, sex.
ICT household survey (Eurostat)	Household ICT usage	Household. Annual (first half of the year) since 2002 EU Member States	Use of Internet in relation to training and educational purposes (formalised educational activities, post education activities, other education activities).	<ul style="list-style-type: none"> - Based on legal act since 2004; - breakdown by age group, household type, objective 1 regions and other regions, type of formalised educational activities.
Structural Business Statistics (SBS) (Eurostat)	Business demography, labour and capital input, turnover, value added	Enterprise Annual since 1995 EU Member States, Bulgaria, Norway, Romania, Switzerland	Number of apprentices.	
Labour Market Policy data collection (LMP) (Eurostat)	Labour market policy	Labour market measures (Public interventions in the labour market ... distinguished from other general public employment policy measures in that they act selectively to favour particular groups ...) Annual (since 1998) EU Member States, Norway	Targeted employment policies of the EU countries resulting from the 1997 agreement to launch the European Employment Strategy. Summary tables on public expenditure and participants (stocks and flows) by type of action and by country and on participation by type of measure. Long-term indicator: Labour market policy expenditure in active measures by type.	<ul style="list-style-type: none"> - Links to the OECD database on LMP; - active measures: training; job rotation and job sharing; employment incentives; integration of the disabled; direct job creation; start-up incentives; - passive measures: unemployment and early retirement benefits; - additional qualitative information on each labour-market policy measure; - public expenditure distinguished by direct recipient (individuals, employers or service providers) and by the way the expenditure is disbursed (e.g. cash payment and foregone revenue).



Data source	General subject	Statistical unit Periodicity Coverage	Key subjects related to VET and lifelong learning	Additional remarks
Labour market programme database (OECD)	Labour market programme (LMP)	Measures: active or passive since 1985 OECD member countries	Public expenditure on LMPs.	<ul style="list-style-type: none"> - All types of public spending, including national, regional and local; - excludes the private sector's spending on apprenticeship and other training. Similarly, training financed through payroll taxes is excluded; - active measures: public employment services and administration; labour-market training; youth measures; subsidised employment; measures for the disabled; - passive measures: unemployment compensation and early retirement due to labour-market reasons.
Programme for International Student Assessment (PISA) (OECD)	Student achievements	Young people aged 15 enrolled in an educational institution every 3 years OECD member and partner countries willing to participate: 43 in 2000, 41 countries in 2003, at least 58 countries in 2006	Measure of performance in selected skill domains: reading literacy; mathematics literacy, scientific literacy, problem-solving.	<ul style="list-style-type: none"> - Breakdown by sociodemographic background of pupil; home language; migration background; - background variables on teachers and schools.
International Adult Literacy Surveys (IALS) (Statistics Canada, OECD, Eurostat, UNESCO)	Adult literacy	Individual aged 15-65 1994, 1996, 1998 20 countries	Performance in selected skill domains (prose literacy, document literacy and quantitative literacy). Creation of comparable literacy profiles across national, linguistic and cultural boundaries. Participation in adult education and training.	<ul style="list-style-type: none"> - One of the most sophisticated surveys to measure adult literacy according to prose literacy (understand and use information for texts), document literacy (locate and use information contained in various formats) and quantitative literacy (apply arithmetic operations to numbers embedded in printed materials); - breakdown by demographic variables, work history, education level, earning, etc.
Adult Literacy and Life Skills Survey (ALL) (OECD)	Adult literacy and life skills	Individual aged 16-65 2003 Bermuda, Canada, Italy Mexico, Norway, Switzerland, the United States	Performance in selected skill domains (prose literacy, document literacy, numeracy, analytical problem-solving).	<ul style="list-style-type: none"> - ALL is a large-scale, international comparative assessment designed to identify and measure a range of skills domains: prose and document literacy, numeracy, and analytical reasoning/problem solving; - breakdown by demographic variables, work history, education level, etc.
Programme for international assessment of adult competences (PIAAC) (OECD)	Competences and their impact on social and economic outcomes for individuals and countries	Individual 3 cycles of 5 years gap. First results available in 2010 voluntary participating countries	Performance in selected skill domains; use of selected skills in the workplace.	<p>Currently under preparation.</p> <p>The aim of PIAAC is to (a) identify and measure differences between individuals and countries in competences believed to underlie personal and societal success; (b) assess the impact of these competences on social and economic outcomes for individuals and countries; (c) gauge the performance of education and training systems in generating required competences; and (d) help to clarify the policy levers that could contribute to enhancing competences.</p> <p>The PIAAC first cycle will assess the skill level of the population in participating countries (literacy, numeracy, problem-solving, etc.) as well as the use of selected skills in workplaces using the job reporting approach.</p>
Special educational needs: student with disabilities, learning difficulties and disadvantages (SENDDD) (OECD)	Special educational needs	Students with special educational needs 2-yearly (since 1999) all OECD countries (includes 19 EU countries)	Education and training provision, special schools, public/private institutions.	<ul style="list-style-type: none"> - Rely on secondary data from national administrative sources; - breakdown by level of education, settings of provision, gender, age, size of special schools, teacher/pupils ratios, public/private institutions, etc.
Civic Education Study (CIVED 1999) (International organisation for education assessment - IEA)	Students' knowledge of fundamental principles of democracy, understanding of citizenship, trust in institutions and nations.	All students enrolled on full-time basis in the grade in which most students aged 14 are found (grade 8 in most countries) 1996-97 (qualitative case studies); 1999-2000 (data collection) 24 countries in phase 1 (14 EU); 28 countries in phase 2 (17 EU)	Civic and citizenship knowledge, attitudes and behavioural tendencies of pupils, curriculum and classroom practices, school climate, teacher characteristics.	<ul style="list-style-type: none"> - Contextual data collected from students and through teacher and school questionnaires; - breakdown by gender, civic knowledge, civic attitude, civic behavioural tendencies; - additional survey of upper secondary school students in some countries.



Data source	General subject	Statistical unit Periodicity Coverage	Key subjects related to VET and lifelong learning	Additional remarks
Trends in International Mathematics and Science Study (TIMSS) (International Organisation for Education Assessment - IEA)	Assessment of students' mathematics and science achievement.	All students at several grade levels (4 years and 8 years of schooling + final year of secondary education) ----- 1995, 1999, 2003, 2007 ----- 46 countries in 2003 (12 EU Member States + Bulgaria, Norway, Romania)	Performance in mathematics and science; attitudes and self-concept; curriculum and classroom practices; teacher and school characteristics.	- Breakdown by grade, gender, maths and science knowledge, attitudes and self-concept, home socio-economic of pupils at grades 4 and 8; - extensive information about teaching and learning of mathematics and science collected from students, teachers and school principals.
Second on Information Technology in Education Study (SITES) (International Organisation for Education Assessment - IEA)	SITES-M1: Educational use of ICT SITES-M2: innovative pedagogical practices using ICT	SITES-M1: principals and technology coordinators in schools using computers at various grades (mandatory population: 14 years old); SITES-M2: teachers and learners in schools of grade 6, grades 7-9 and grades 10-12 ----- SITES-M1: 1998-99; SITES-M2: 2000-01; next issue: 2006 ----- SITES-M1: 26 countries (13 EU, Bulgaria, Norway.); SITES-M2: 28 countries (13 EU, Norway).	ICT in education related policies, teacher characteristics, pedagogical practices using ICT.	- Breakdown by grade; - SITES 2006 will deal with the impact of investments in ICT in education.
World Values Survey (WVS)	Worldwide investigation of sociocultural changes and values and beliefs of people in a particular society	Individuals more than 15 years old. ----- Irregular; last European wave in 1999 ----- 1999-2001: 60 societies covering 6 continents (almost 60 % of the world's population), 24 EU countries	Surveys on a range of social, political and moral issues. Questions on citizenship and democracy.	Survey organised through a network of leading universities all around the world (about 80 countries).
Eurobarometer on VET (DG PRESS, DG EAC, Cedefop)	Opinion of EU citizens on continuing and initial vocational training	Individual aged 18 to 64 ----- In 2004 ----- EU Member States	Source of acquired knowledge and skills, forms of CVT during and outside working time, recent training and reasons, training policy in the workplace, guidance on and objectives of training, future training.	Breakdown by country and sociodemographic characteristics (e.g. gender, age groups, occupational status, subjective assessment of urbanisation).
Eurobarometer on lifelong learning (DG PRESS, DG EAC, Cedefop)	Opinion of EU citizens on LLL	Individual, at least 15 years old ----- In 2003 (EU-15, Iceland, Norway) ----- In EU 10 (new Member States)	Past learning experiences, learning preferences, obstacles and incentives, opinion on lifelong learning, important skills, learning conducive environment.	Breakdown possible by country and sociodemographic characteristics (e.g. gender, age groups, occupational status, subjective assessment of urbanisation).

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Key words

Vocational education and training, skills, statistics, data sources.



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