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Updated framework
for monitoring adult learning:
Enhancing data
identification and indicator
selection

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DIRECTORATE FOR EDUCATION AND SKILLS**Updated Framework for Monitoring Adult Learning: Enhancing Data Identification and Indicator Selection****OECD Education Working Paper No. 317**

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This Working Paper introduces an updated framework for monitoring and analysing adult learning systems and policies, building upon the previous framework established in 2013. It offers a wealth of information on the existing international surveys assessing adult learning activities, along with in-depth national-level information on monitoring adult learning initiatives.

The Network on Labour Market, Economic and Social Outcomes (LSO Expert Network) led by the OECD's Directorate for Education and Skills in collaboration with various Directorates conducting relevant work at the OECD.

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Abstract

The Network on Labour market, economic, and social outcomes of learning (LSO Expert Network) has diligently worked on the selection of indicators for monitoring adult learning policies. Their inaugural theoretical framework on adult learning, [published in 2013](#), covered a broad spectrum of policy areas. This comprehensive scope reflected both the focus of existing data sources and the challenges encountered in data collection efforts.

Over the past decade, significant policy shifts have occurred, reshaping adult learning systems both domestically and internationally. Concurrently, there have been improvements in the availability and frequency of data pertaining to adult learning. In response to these developments, this working paper presents an updated theoretical framework on adult learning, aiming to enhance the identification of statistical data concerning adult learning systems and facilitate the selection of pertinent indicators for monitoring purposes. Additionally, the paper offers detailed insights into national priorities and practices within this domain.

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1. Introduction

In today's globalised world, it is becoming increasingly important for everyone to learn how to navigate the evolving personal, social and professional environment. This could involve gaining new skills, mastering new technologies and learning how to carry out new tasks within and outside of work. Similarly, there is a growing recognition of the importance of adult learning and adult learning systems – that is to say, the totality of learning activities by adults, their features, sources of financing as well as the various actors involved – in society, the economy, and politics. This is reflected, for instance, in the designation of participation in adult learning by the United Nations as one of the objectives of the Sustainable Development Goals (SDGs). Furthermore, adult learning plays a crucial role in promoting social inclusion, cohesion, and participation, which are essential for building more resilient and equitable societies.

Box 1.1 offers a brief overview of the concept of adult learning that has informed the approach taken in this paper.

Box 1.1. Concept of adult learning

Adult learning usually refers to learning activities after the end of initial education. In practical terms, studies on adult learning often concentrate on individuals aged 25 and above, a group that includes relatively few individuals still engaged in initial education.

Learning comprises a variety of meanings, any improvement in behaviour, information, knowledge, understanding, attitude, values or skills are considered as learning activities (UNESCO Institute for Statistics., 2006^[1]). Within the realm of adult learning, most international surveys focus on intentional learning activities (as opposed to random learning), which can be further categorised into three main types:

Formal education and training are institutionalised, intentional and planned through public organisations and recognised private bodies and – in their totality – constitute the formal education system of a country;

Non-formal education and training are also institutionalised, intentional and planned by an education provider. They are an addition, alternative and/or complement to formal education and training within the process of lifelong learning of individuals. They do not normally give access to a higher level of education and lead to qualifications that are not recognised as formal or equivalent to formal qualifications by the relevant national or sub-national education authorities or to no qualifications at all.

Informal learning is intentional but not institutionalised. It is consequently less organised and less structured than either formal or non-formal education and training (UNESCO-UIS, 2012^[2]) and (EU, 2016^[3]).

Recognising that informal learning activities are less institutionalised, this framework primarily targets formal and/or non-formal education and training (details in Section 2).

The OECD and its member, partner and/or accession countries, in the context of the work of the Indicators of Education Systems (INES) programme and within the annual publication Education at a Glance (EAG), have been regularly reporting on the status and evolution of adult learning systems across the OECD countries and beyond. A critical contribution to this work has been provided by the Network on Labour market, economic and social outcomes of learning (LSO Expert Network) (see Box 1.2). In 2013, the Adult learning working group within the LSO Expert Network developed a theoretical framework

for monitoring adult learning policies with the aim of facilitating the analysis and reporting, based on key national and international adult learning policy priorities (Borkowsky, 2013^[4]). Since then, this framework has guided the reporting on adult learning indicators in Education at a Glance (EAG).

Box 1.2. The LSO Expert Network

The Network on Labour market, economic and social outcomes of learning (LSO Expert Network) consists of the following OECD, partner and/or accession countries and international organisations responsible for developing education indicators: Australia, Austria, Belgium, Canada, Chile, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Korea, Latvia, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, the Republic of Türkiye, the United Kingdom, the United States, the European Commission and Cedefop. Its indicator development work focuses on the complex relationships among education, labour markets, economic performance, and social progress in a globalised economy. The LSO Expert Network is one of the three groups of national experts contributing to the annual report: Education at a Glance: OECD Indicators.

Source: [LSO brochure](#)

The past decade has seen policy and statistical developments in the field of adult learning, both at national and international levels. From an international perspective, probably the most important development has been the designation of the United Nations Agenda 2030 - Sustainable Development Goal 4 (SDG4) on education, including the target for adult learning. In addition, the European Union (EU) has undergone major revisions of adult learning policies and related statistical data collection instruments, affecting OECD member and accession countries. The OECD Survey of Adult Skills (PIAAC) Cycle 2 will also provide new and relevant data for understanding and monitoring adult learning systems. Similarly, at the national level, many countries have pursued reforms to enhance adult learning (OECD, 2020^[5]) and Chapter 4).

All these developments as well as the experience gained in reporting adult learning indicators over the past few years suggest that the [existing adult learning framework \(published in 2013\)](#), while still very useful, could benefit from an update to better reflect newly available data as well as the evolving policy context. Therefore, in 2022, the LSO Expert Network initiated a review of the existing framework. This paper reports on the results of this work and presents the updated theoretical framework for the monitoring and analysis of adult learning systems and policies, and the process that led to it.

This paper presents:

- A mapping of the existing approaches to measuring adult learning and the main international sources of data on adult learning (Chapter 2).
- A description of the updated framework, including a list of proposed indicators and their data sources (Chapter 3).
- A mapping of national policy priorities, indicators, and data sources on adult learning in OECD member countries (Chapter 4).

2. Measuring adult learning: approaches and data sources

2.1. Collecting information on adult learning

This chapter provides an overview of current measurement approaches, lists the main international data sources, and emphasises the importance of data quality and the inclusion of qualitative information to enrich the understanding of adult learning metrics.

2.2. Existing approaches for measuring adult learning

In terms of approaches to measuring learning overall, not just adult learning, it might be helpful to consider the concept of “educational boundary”. This indicates a decision of what types of phenomena or activities should be included and those that should be excluded from measurement and monitoring efforts (UN, 1975_[6]). Traditionally, activities in formal education systems, which are underpinned by a core concept of systematic instruction leading to knowledge or skills acquisition, were considered to be the easiest to define, identify and distinguish from other educational activities. As a result, they have been the focus of education statistics (UNESCO-UIS, 2012_[2]). However, adult learning primarily concerns less formalised forms of learning, which may necessitate the extension of this measurement boundary towards less formalised approaches to learning and teaching, such as seminars, individual tutoring, or guided on-the-job training. At the same time, the larger the diversity and fragmentation of the phenomena being measured, the more challenging it becomes to capture it reliably and comparably over time and across countries.

This section navigates the conceptual definitions that are crucial for measuring adult learning, from ISCED 2011 to Eurostat’s Classification of Learning Activities (CLA) framework. Additionally, it attempts to document the practical solutions for collecting data on adult learning, such as those exemplified by the EU Adult Education Survey (EU-AES), and offers insights into real-world applications of these measurement approaches.

2.2.1. International Standard Classification of Education (ISCED) 2011 for measuring adult learning

The ISCED 2011 manual makes it clear that the classification covers both formal and non-formal educational programmes, where:

- **Formal education and training** are *institutionalised, intentional and planned through public organisations and recognised private bodies and – in their totality – constitute the formal education system of a country. Formal education programmes are thus recognised as such by the relevant national education or equivalent authorities;*
- **Non-formal education and training** are *institutionalised, intentional and planned by an education provider. The defining characteristic of non-formal education is that it is an addition, alternative and/or complement to formal education within the process of lifelong learning of individuals. <...> The successful completion of a non-formal education programme and/or a non-formal educational qualification does not normally give access to a higher level of education, unless it is appropriately validated in the formal education system and recognised by the relevant national or sub-national education authorities (or equivalent);*

The manual also suggests that the criteria to be used for distinguishing formal or non-formal education and training could be whether the qualification received (if any) is recognised by national education authorities.

However, the manual also acknowledges that in practice international data collections may be restricted to formal education programmes due to international comparability and feasibility (UNESCO-UIS, 2012_[2]).

2.2.2. Eurostat Classification of Learning Activities (CLA) 2016

The ISCED 2011 classification places a particular focus on formal education and training programmes, though it has been refined after the ISCED 1997 version to improve the definitions of formal and non-formal education and training. In addition, the central conceptual framework for measuring learning that goes beyond formal and/or non-formal education and training has been set out by Eurostat in the Classification of Learning Activities (CLA) in 2016. The classification proposed in the CLA 2016 is based on three broad categories: formal education and training, non-formal education and training and informal learning. Random learning is excluded from statistical observation because it is not intentional. The CLA 2016 provides the conceptual definitions of these three categories as follows:

- **Formal education and training**, which is in line with the definition from ISCED 2011, please see section 2.2.1 for more information;
- **Non-formal education and training** which is in line with the definition from ISCED 2011, please see section 2.2.1 for more information;
- **Informal learning** is defined as *intentional, but it is less organised and less structured ... and may include for example learning events (activities) that occur in the family, in the workplace, and in the daily life of every person, on a self-directed, family-directed or socially-directed basis* (EU, 2016_[3]).

The CLA expands on the concepts of organised learning and provides more operational insights to capture different degrees of institutionalisation and organisation concerning formal and non-formal learning, as opposed to informal. Based on the CLA, for informal learning, the presence of an institution responsible for providing student-teacher relationships and/or interactions, the teaching/learning method, the schedule, the location, the medium, and admission requirements are not necessary conditions, as they are for formal and non-formal learning.

2.2.3. Practical solutions for capturing adult learning in data collections

To assist with the measurement of adult learning in practical settings (such as household surveys), it is often helpful to accompany the concept of formality with a list of exemplary non-formal education and training activities. For example, in the EU Adult Education Survey (EU-AES), the list of such activities includes:

- **Courses**, which are *typically subject-oriented. They are taught by one or more people specialised in a specific field or fields. They can take place in a classroom (on-site) or online.*
- **Workshops and seminars**, which *have the character of a course and can also combine theoretical instruction (classroom instruction) with practice in real or simulated situations.*
- **Guided on-the-job training**, which *is characterised by planned periods of training, instruction, or practical experience, organised by the employer, using normal tools of work or in work situation, with the presence of a tutor.*
- **Private lessons**, in which *the tutor/instructor is typically also the 'provider' of the learning activity* (EU, 2022_[7]).

Additionally, most household or individual surveys include variables on job-relatedness and sponsorship for adult learning activities:

- Adults participating in **job-related education and training** have the objective to obtain knowledge and/or new skills need for a current or future job, to increase earnings, to improve job and/or career opportunities in a current or another field and generally to improve opportunities for advancement and promotion.
- **Employer-sponsored education and training** can be organised in the form of time (i.e., educational activities that take place fully or partly during paid working hours), or financial support (giving grants to employees to participate in education or training activities).

2.2.4. *Separating adult learning from initial education and training*

The final central concept necessary for the measurement of adult learning activities is the life stage of the learner, explicitly encoded in the word “adult”. This indicates a need to measure learning activities that occur after an individual has completed some form of initial education and training, which typically occurs *before their first entrance to the labour market, i.e. when they will normally be in full-time education* (UNESCO-UIS, 2012^[2]). There may be two main ways to define this “adult” stage in relation to initial education and training:

- **Age of learner.** For instance, in the context of the EU Adult Education Survey (EU-AES) the main indicator refers to learning activities of adults starting at age 25 and up until age 64. With the trend of aging population, the upper age bound has been extended to 69 in EU-AES 2022.
- **Another key distinction is between initial education systems/programmes and continuing education systems/programmes.** This involves identifying the specific moment when an individual transitions from participating in initial education to engaging in continuing education. However, some programmes are designed for all types of learners at all ages. The empirical distinction between initial and adult education and training can be ambiguous.

2.3. International data sources on adult learning

This section introduces data sources with an emphasis on international datasets, facilitating comparisons across countries. While many sources cover adult learning, at the EU level, the EU Adult Education Survey (EU-AES) and the EU Continuing Vocational Training Survey (EU-CVTS) are the only sources explicitly designed for measuring the relevant concepts, which means that special care is taken in using precise definitions, guidelines, interview time, and interviewers’ training dedicated to these concepts. Many OECD non-EU countries have recently incorporated pertinent questions into their questionnaires to measure adult learning (see Section 4 for more details). These national data sources from across the OECD have been thoroughly reviewed, although the datasets retained in this section cover mostly OECD EU countries.

The main sources of information on adult learning can be categorised into four key stakeholders, each offering distinct types of data:

1. Individual person: provides information on the intensity of adult learning participation, features of adult learning participated, context of their learning but also their own characteristics (i.e., socio-economic background).

2. Employer: provides information about the volume and costs of learning activities and their features.
3. Providers: collects primarily information about participation in formal or non-formal education and training.
4. Bodies (mostly public) providing financing to cover the costs of adult learning.

The current international data sources on adult learning can be grouped into three main categories:

- Household or individual surveys
- Enterprise surveys
- Administrative data

2.3.1. Household or individual surveys

A significant number of household or individual surveys, particularly among those carried out in the European Union/European Economic Area (EU/EEA), collect information to monitor adult learning systems. Table 2.1, Table 2.2 and Table 2.3 present the main international surveys which include several variables for measuring participation in formal and/or non-formal adult learning activities. Participation in informal learning and random learning are in most cases not covered by the surveys listed in these tables. Furthermore, Table 2.4 presents additional surveys that collect some more limited information on adult participation in formal and/or non-formal education and training. These supplementary data sources may provide further useful insights for analysing the context of adult learning, for example from surveys covering social, income and living conditions, time use, household budgets or information and communication technologies (ICT) usage.

Table 2.1. Main international household or individual surveys covering adult learning

Survey (Organisation)	Sample size	Target population	Reference year(s)	Reference period	Formal education and training	Non-formal education and training	Learning hours	Number of learning activities undertaken by adults
EU-AES (Eurostat)	Around 290.000 individuals	25-64 year-olds up to 2016, 18-69 year-olds from 2022 onwards	2007 (pilot), 2011, 2016, 2022, 2028 (planned)	12 months	Yes	Yes (including guided on-the-job training)	Yes	Yes
EU-LFS (Eurostat)	Around 1.1 million individuals	15-74 year-olds	Quarterly	4 weeks	Yes	Yes, but excluding guided on-the-job-training	Only up to 2020 and was voluntary	No
			Biennial (from 2022)	12 months	Yes	Yes, but excluding guided on-the-job-training		

Survey (Organisation)	Sample size	Target population	Reference year(s)	Reference period	Formal education and training	Non-formal education and training	Learning hours	Number of learning activities undertaken by adults
PIAAC (OECD)	More than 350 000 individuals	16-65 year-olds	2012, 2023	12 months	Yes	12-month, incl. GOJT	Only for NFE	Yes
ESJS (Cedefop)	~45.000	25-64 and employed	2014, 2021		No	12-month, incl. GOJT	No	No
COS 2 (Cedefop)	>40.000	25+	2019		Current; 12-month; >12-month	Current; 12-month; >12-m.; excl. GOJT	No	No
EWCS (Eurofound/ Cedefop)	>70.000	15+ and employed	Between 1990-2015 5-yearly, 2021, 2024p		No	12-month, incl. GOJT	No	No

Note on geographic coverage: apart from PIAAC, all other surveys cover exclusively European countries. Refer to 0 for the list of acronyms and abbreviations.

The EU Adult Education Survey (EU-AES) seems to be the only survey providing comprehensive breakdowns by job-relatedness and employer sponsorship for all (or most of) the reported non-formal training activities. The Survey of Adult Skills (PIAAC) and the second Cedefop opinion survey (COS 2) provide both breakdowns for the non-formal training activity. Partial coverage of these dimensions is also available in the EU Labour Force Survey (EU-LFS) since 2021, offering a breakdown between at least one job-related non-formal training activity and only non-job-related non-formal training activities. The European Skills and Jobs Survey (ESJS), covers only job-related education and training and includes an employer sponsorship breakdown, while the European Working Conditions Survey (EWCS) covers only employer-sponsored education and training. Please note that the surveys presented in this paper are still ongoing, and the information presented in this paper is based on the latest available round. The indicators from these surveys are listed in Section 3.

Table 2.2. Available breakdowns for participation in formal and/or non-formal education and training in the main household or individual surveys

Survey	For all activities	For selected (random, last) activity
EU-AES (Eurostat)	For one formal and up to five non-formal activities – type (only for non-formal activities); main activity status during activity; purpose (job-relatedness, only for non-formal activities); during paid working hours; paid by the employer	For one formal and up to two non-formal randomly selected activities: skills acquired (only for non-formal activities); use of online learning; initiator (only for non-formal activities); reasons and main reason; hours; detailed sponsorship information and monetary value (only for non-formal activities); providers; certification (only for non-formal activities); current use of skills gained; outcomes and main outcome
EU-LFS (Eurostat)	If at least one non-formal activity is job-related; if all non-formal activities are non-job-related	None
PIAAC Cycle I (OECD)	Number of activities by type; total time spent during all activities and share of time for job-related learning activities	For the last activity: type; job-relatedness; main reason; if employed during the activity; if during working hours; usefulness; if paid by an employer
ESJS (Cedefop)	At least one job-related activity by type (course or guided on-the-job training); by working hours (during or outside); by the source of payment (yourself; employer; government; others); reasons. Only for wave 2 – if done online; if certified; if to learn IT skills; if to learn to operate specific new software or machinery adopted recently	None
COS 2 (Cedefop)	At least one activity by type (formal; self-directed; non-formal job-related; non-formal non-job related)	Purpose, satisfaction; sponsorship; if workplace was the location;
EWCS (Eurofound)	At least one employer-sponsored learning activity; at least one guided on-the-job training	None

Note on geographic coverage: apart from the Survey of Adult Skills (PIAAC), all other surveys cover exclusively European countries.

Table 2.3. Core socio-demographic background variables in the main household or individual surveys

Variable	EU-AES (Eurostat)	EU-LFS (Eurostat)	PIAAC Cycle I (OECD)	ESJS (Cedefop)	COS 2 (Cedefop)	EWCS (Eurofound)
Country of residence	Yes	Yes	Derived	Derived	Derived	Derived
Region of residence	Yes	Yes	Derived	Yes	No	No
Urbanisation	Yes	Yes	Derived	Yes	Yes	No
Household size	Yes	Yes	Yes	No	Yes	Yes
Household type	Yes	Yes	No	No	No	No
Household income	Yes	No	No	No	No	No
Monthly pay	No	Yes	Yes	Yes	Yes	No
Sex	Yes	Yes	Yes	Yes	Yes	Yes
Age	Yes	Yes	Yes	Yes	Yes	Yes
Citizenship	Yes	Yes	No	Yes	Yes	No
Country of birth	Yes	Yes	Yes	No	No	No
Residence duration	Yes	Yes	Yes	No	No	No
Previous country of residence	No	Yes	No	No	No	No
Marital status	Yes	Yes	Yes	No	Yes	No
Educational attainment (highest level of education successfully completed)	Yes	Yes	Yes	Yes	Yes	Yes
Country where the highest level of education was successfully completed	No	Every eight years	Yes	No	No	No
Field of highest level of education successfully completed	Yes	Yes	Yes	yes	No	No
Year when the highest level of education was successfully completed	Yes	Yes	Yes	Yes	Yes	No
Labour market status	Yes	Yes	Yes	No	Yes	No
Full-time/part-time job	Yes	Yes	No	No	No	Yes
Status in employment	Yes	Yes	Yes	Yes	Yes	Yes
Permanency of job contract	Yes	Yes	Yes	Yes	No	Yes
Occupation	Yes	Yes	Yes	Yes	Yes	Derived
Sector of economic activity	Yes	Yes	Yes	Yes	No	Yes
Firm size	Yes	Yes	Yes	Yes	No	Yes
Job tenure	Yes	Yes	Yes	Yes	No	Yes
Educational attainment of father	Yes	Every eight years	Yes	No	Yes	No
Educational attainment of mother	Yes	Every eight years	Yes	No	Yes	No
Country of birth of father	Yes	Yes	Yes	No	Yes	No
Country of birth of mother	Yes	Yes	Yes	No	Yes	No

Note on geographic coverage: apart from PIAAC, all other surveys cover exclusively European countries.

Table 2.4. Other household or individual surveys potentially relevant for adult learning

Survey (Organisation)	Frequency	Reference period	Formal education and training	Participation in non-formal education and training	Learning hours	Number of learning activities undertaken by adults
EU-SILC (Eurostat)	Annual	Situation at the time of the survey	Yes	No	No	No
EU-HETUS (Eurostat)	Decennial (last in 2020)	One week	Yes	Yes, but only covers non-job-related education and training	Yes	No
EU-HBS (Eurostat)	Every five years (last in 2020)	Situation at the time of the survey	Yes	No	No	No
EU-ICT (Eurostat)	Annual	Three months	Yes, but only including online formal education and training	Yes, but only including online non-formal education and training	No	No

Note on geographic coverage: all these surveys cover exclusively European countries.

2.3.2. Enterprise surveys

There are a number of cross-national enterprise surveys, but only a few collect a broader range of information relevant to adult learning. These include the EU Continuing Vocational Training Survey (EU-CVTS), the European Company Survey (ECS), the Community Innovation Survey (CIS), the European Investment Bank Group Survey on Investment and Investment Finance Survey (EIBIS), the Structure of Earnings Survey (SES), the Labour Cost Survey (LCS), and the Job Vacancy Statistics (JVS). Please note that the surveys presented in this paper are still ongoing, and the information presented in this paper is based on the latest available round. Furthermore, the Flash Eurobarometer numbers 529 and 537 provide additional insights into the skills required and the challenges associated with hiring. Table 2.5 and Table 2.6 provide an overview of the key characteristics of these data collections. The indicators from these surveys are listed in Section 3.

Table 2.5. Key international enterprise surveys covering adult learning

Survey (Organisation)	Sample size	Reference years	Reference period	Information relevant to adult learning
EU-CVTS (Eurostat)	Around 127 000 enterprises	Every five years (last in 2020)	Calendar year	Provision of training for persons employed; investment in training; training needs; barriers to training provision
ECS (Eurofound)	>20.000 establishments	2004/2005, 2009, 2013, 2019, 2020	12 months	Provision of training for employees; training needs; barriers to training provision

Note on geographic coverage: all these surveys cover exclusively EU/EEA member and EU candidate countries.

Table 2.6. Other enterprise surveys potentially relevant to adult learning

Survey (Organisation)	Sample size	Reference years	Reference period	Information relevant to adult learning
CIS (Eurostat)	n/a	Biennial	Mostly 3-year reference period but indicators may also refer to only one calendar year	Staff training costs; knowledge acquisition activities; training activities (discontinued after 2016)
EIBIS (European Investment Bank)	Around 13.300 enterprises	Annual	The last fiscal year prior to the survey year	Share of investment to training; skills shortage as investment obstacle; the proportion of staff with the right skills
SES (Eurostat)	n/a	Every four years (last round in 2018)	Calendar year and reference month	Income by educational attainment; detailed sectoral and occupational breakdowns
LCS (Eurostat)	n/a	Every four years (last round in 2020)	Calendar year	Vocational training costs
JVS (Eurostat)	About 500.000 enterprises or local units	Quarterly	Varying across countries	Could potentially be used to infer skills/training needs
Flash Eurobarometer 529 (opinion survey)	About 13.300 enterprises	2023	n/a	Importance of skills, overall and occupation-specific hiring difficulties (incl. due to skills shortages), enterprise and policy responses to skills shortages, training difficulties
Flash Eurobarometer 537 (opinion survey)	About 13.250 enterprises	2023	n/a	Hiring difficulties for skilled workforce, including for specific job-roles, responses, and external support to address hiring difficulties

Note on geographic coverage: all these surveys cover exclusively EU/EEA member and EU candidate countries.

2.3.3. Administrative data

Cross-national data from administrative sources is primarily concerned with the provision of services by the public sector. However, it is possible to collect administrative data from private providers of education and training services. Table 2.7 and Table 2.8 present some key characteristics of the following data collections: The UNESCO-OECD-Eurostat (UOE) data collection on education systems, the EU-OECD data collection on Labour Market Policies (LMP), data from the European System of Integrated Social Protection Statistics (ESSPROS), data from the Classification of the Functions of Government (COFOG) and the European Structural and Investment Funds (ESIF) are all key sources of information for adult learning. The indicators from these surveys are listed in Section 3.

Table 2.7. Key administrative data sources covering adult learning

Data source (Organisation)	Primary focus	Relevance for adult learning
UOE	Formal education and training	Participation of adults in formal education and training; supplementary data on enrolment in formal adult learning including second-chance education at lower secondary and upper secondary levels
EU/OECD LMP statistics	Active labour market policies	Provision of training to the unemployed and its costs

Note on geographic coverage: these two data sources cover OECD countries.

Table 2.8. Other administrative data sources potentially relevant to adult learning

Data source	Primary focus	Relevance for adult learning
ESSPROS	Social protection expenditure	Covers expenditure for training for the unemployed or those at risk of unemployment; data availability would need to be further examined
COFOG	Government expenditure	Covers data on public expenditure for both formal and non-formal learning, however, the level of detail is insufficient to delineate expenditure specifically for adult learning
ESIF	EU investment funding	Covers data on the volume of expenditure for training activities and participants, however, the level of detail is insufficient to delineate expenditure specifically for adult learning

Note on geographic coverage: The European System of Integrated Social Protection Statistics (ESSPROS) and the European Structural and Investment Funds (ESIF) data cover exclusively EU/EEA member and EU candidate countries, while the Classification of the Functions of Government (COFOG) data is available both for OECD countries.

3. The updated theoretical framework

3.1. The purpose and structure of the updated theoretical framework

The main objective of the theoretical framework for monitoring adult learning policies is to assist with the reporting on the status of adult learning systems (and to the extent possible – policies) in the context of Education at a Glance (EAG). EAG has one of its primary objectives of reflecting “the performance of national education systems” (OECD, 2023^[8]). Accordingly, a theoretical framework for adult learning should aim to reflect the performance of national adult learning systems, helping to organise the available or needed information/data around a coherent list of themes/topics.

The updated theoretical framework aims to improve the identification of statistical data on adult learning systems and the selection of specific indicators for monitoring. It is based on an input-output model from EAG and covers drivers and barriers to learning, as well as the extent to which interest in learning or skills/training needs are translated into actual learning activities. It also emphasises the importance of indicators on participation in adult learning and better reflects the role of employers in adult learning systems. In addition, the selection of sub-themes for monitoring is based on data availability, with the aim of including those themes for which comparable international data are available or are expected to be available.

The update of the framework is based on a review of other existing frameworks and their analytical dimensions, a mapping of international data sources on adult learning, an ad-hoc survey of the LSO Expert Network on national adult learning policy priorities, data sources

and indicators as well as the feedback and recommendations received from individual LSO and OECD experts.

The updated framework includes six main thematic blocks to be used for monitoring adult learning systems and to be fully aligned with an input-output model. They are:

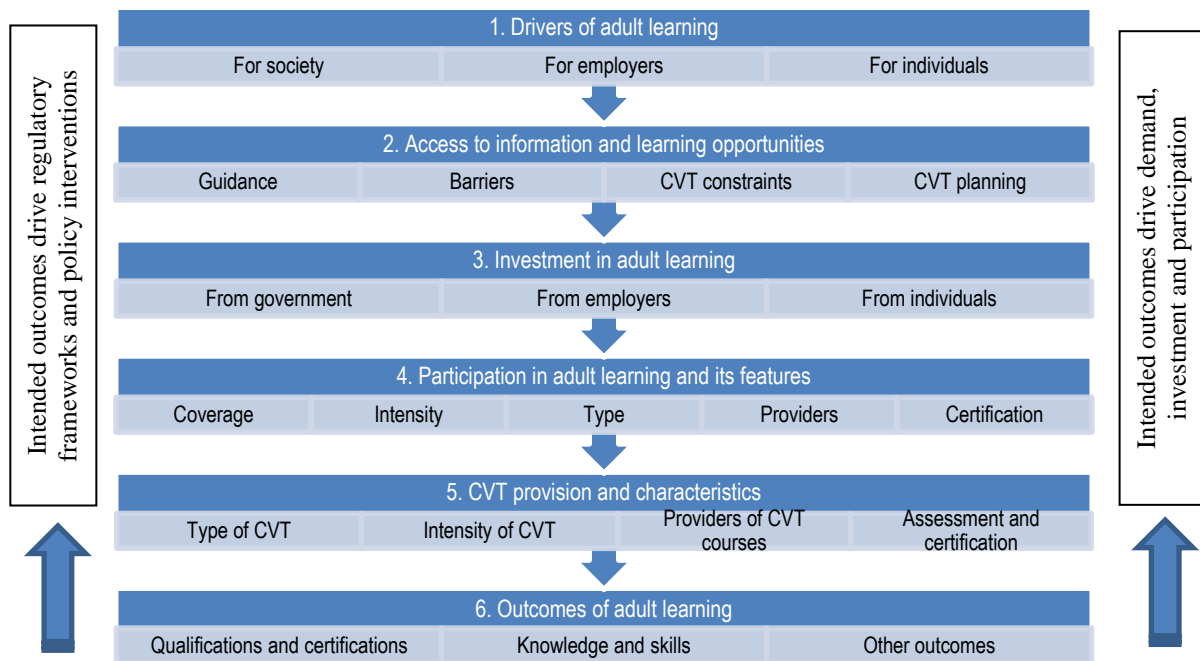
1. Drivers of adult learning;
2. Access to information and learning opportunities;
3. Investment in adult learning;
4. Participation in adult learning and its features;
5. Continuing Vocational Training (CVT) provision and characteristics;
6. Outcomes of adult learning.

Please refer to Figure 3.1 for an overview of the sub-themes under each of the six thematic blocks. For further details on the thematic blocks and their sub-themes, please refer to Section 3.2.

While there is no explicit theme focusing on equity in adult learning, it is possible to apply an equity lens throughout the updated theoretical framework by analysing the situation of different socio-economic groups across the indicators. The thematic blocks are underpinned by several sub-themes, each of which is further underpinned by recommended indicators.

The updated theoretical framework, as presented in Figure 3.1, also indicates two feedback loops, highlighting the circular (rather than linear) and dynamic nature of the framework. The first feedback loop on the left side of Figure 3.1 shows the relationship between the drivers of adult learning (e.g., learning needs) and the outcomes of adult learning (which, when realised, affect the learning needs). The second feedback loop on the right side of Figure 3.1 highlights the links between the objectives of policy interventions designed to affect different elements of adult learning systems and the outcomes of those interventions (i.e., changes in adult learning systems), which then requires a review of the original objectives of those interventions.

Figure 3.1. The updated theoretical/analytical framework



Abbreviation: CVT – continuing vocational training.

3.2. Description of thematic blocks and sub-themes

The design of the thematic blocks and sub-themes was informed by three key considerations:

1. Their inclusion in existing frameworks, particularly the [existing adult learning framework \(published in 2013\)](#) from the OECD LSO Expert Network, [the EU analytical framework](#), and the OECD [Dashboard on priorities for adult learning \(PAL\)](#);
2. The availability of relevant data;
3. The established reporting practices within Education at a Glance (EAG).

A selection of existing international data sources has been identified for each thematic block. The name of these data sources is included at the end of each indicator in parentheses for easy reference. However, it is important to recognise that countries that do not participate in these surveys may be able to provide equivalent data, which could greatly enhance the depth and breadth of the analysis. Please refer to Section 4 for further details on the availability of national data sources covering adult learning.

3.2.1. Thematic Block 1: Drivers of adult learning

This thematic block aims to include data and indicators covering such aspects as skills needs and shortages, gaps in basic skills among the adult population and individual interest in learning.

This thematic block can be subdivided into three sub-themes:

Drivers of adult learning for society

- Share of adults by educational attainment and programme orientation (AES, EU-LFS, PIAAC)
- Share of adults with low literacy/numeracy/information processing skill (PIAAC)
- Share of adults reporting that their skills are lower than required to do their job and by extent (scale 1-5) (ESJS)
- Qualifications mismatch (whether the education level individual possesses is higher/lower than required by their job) (PIAAC)
- Skills mismatch (whether the skills individual possesses is higher/lower than required by their job) (PIAAC)
- Over qualification rates and self-reported skills mismatch)

Drivers of adult learning for enterprises

- Main skills targeted by continuing vocational training (CVT) courses (EU-CVTS)
- Main skills deemed important for the future of the enterprise (EU-CVTS)
- Share of employees have the skills that are about right to do this job? Have a higher/lower level than it is needed in their job? (ECS)
- Share of employees in this establishment are in jobs that require continuous training (in percentage range) (ECS)
- Share of newly recruited employees did not yet have the skills needed to do their job to the required level (in percentage range) (ECS)
- Share of enterprises reporting that the availability of staff with the right skills as major/minor obstacle for long-term investment activities (EIBIS)
- Share of enterprises not providing (further) training because of people recruited with the skills needed (EU-CVTS)
- Share of enterprises not providing (further) training due to factors such as time, cost, availability of training options and assessment (EU-CVTS)
- Share of enterprises not providing (further) training because they develop skills through other means, including alternatives like recruitment and focusing on initial vocational training (EU-CVTS)
- Share of enterprises assessing their future skill needs (EU-CVTS)
- Presence and involvement of trade unions and staff committees in enterprises (EU-CVTS)

Drivers of adult learning for individuals

- Share of adults who reported having no need for training (EU-AES)
- Share of adults who reported having looked for any information concerning learning possibilities (formal and/or non-formal education and training) (EU-AES)
- Share of adults who reported being willing to participate (more) in education and training (EU-AES)

- Reasons and the main reason for participating in formal and/or non-formal learning activity (AES; PIAAC)
- Who initiated the non-formal learning activity(ies) (EU-AES)
- Share of workers reporting that the need to learn new things increased since starting the current job (scale 0-10) (ESJS)

The decision to treat this thematic block as stand-alone is supported by its extensive representation in existing frameworks and the availability of comprehensive data from various sources (e.g., EU-LFS, EU-AES, PIAAC, EU-CVTS, ESJS,). Furthermore, categorising the drivers of adult learning into distinct groups of stakeholders (society, enterprises, individuals) facilitates focused monitoring and analysis. Identifying and nurturing an interest in adult learning is crucial, as it fundamentally influences the decision to seek and engage in adult learning opportunities.

It is important to note that a significant portion of the adult population in developed economies exhibits a lack of interest in, or perceived need for, additional learning, as highlighted by multiple studies (OECD, 2019^[9]), (OECD, 2021^[10]) and (European Commission, 2021^[11]) This is paralleled by the behavior of many enterprises within the EU, particularly small and medium-sized enterprises (SMEs), which cite the perceived adequacy of current skills as the primary reason for not offering training. Furthermore, approximately one-third of enterprises that participated in EU-CVTS 2020 with at least ten persons employed do not assess their future skill needs at all. This underscores the importance of this thematic block in addressing and understanding the underlying drivers and barriers to adult learning.

3.2.2. Thematic Block 2: Access to information and learning opportunities

This thematic block explores a variety of aspects including the availability and access to information and guidance services, barriers to accessing training opportunities encountered by both individuals and enterprises, unsatisfied demand for training, as well as the influence of enterprises in either facilitating or hindering their employees' access to training opportunities.

This thematic block can be subdivided into four sub-themes:

Guidance on adult learning opportunities

- Share of adults reporting having received any guidance on learning opportunities (EU-AES)
- Type of guidance services received (EU-AES)
- Source of the guidance services received (EU-AES)
- Type of interaction of guidance services received (personal/automated) (EU-AES)

Barriers to adult learning

- Share of adults who participate in formal and/or non-formal education and training and want to participate more (EU-AES)
- Share of adults wanting to participate in formal and/or non-formal education and training by reason for not participating (EU-AES, PIAAC)

- Share of adults wanting to participate in formal and/or non-formal education and training by main reason for not participating (EU-AES, PIAAC)

Constraints on the provision of continuing vocational training (CVT)

- Share of enterprises providing training by factor limiting the provision (EU-CVTS)
- Share of enterprises not providing training (EU-CVTS)
- Distribution of enterprises not providing training by reason for non-provision (EU-CVTS)

Planning of continuing vocational training (CVT) activities

- Share of enterprises with staff representative involved in the management of CVT courses (and by type of involvement) (EU-CVTS)
- Share of enterprises using CVT as usual reaction to future skill needs (EU-CVTS)
- Share of enterprises with CVT planning (and by type of planning) (EU-CVTS)
- Share of enterprises with a collective CVT agreement (and by type of agreement) (EU-CVTS)

The justification for treating this thematic block as a distinct one is that it encompasses critical dimensions that are also reflected in other frameworks. A variety of indicators from different data sources, in particular EU-AES/PIAAC and EU-CVTS, support the thematic block and its dimensions. In addition, it is crucial within this block to consider and document how enterprises function as key gatekeepers in the adult learning system, either facilitating or restricting access to learning opportunities for their employees.

3.2.3. Thematic Block 3: Investment in adult learning

This thematic block is specifically designed to address the sources and volumes of financing adult learning, highlighting it as a critical area for monitoring.

This thematic block can be subdivided into three sub-themes:

Investment from government

- Annual expenditure on formal education and training of adults (UOE)
- Expenditure on formal education (COFOG)
- Expenditure on non-formal education (COFOG)
- Governments' spending on active labour market policies training as percent of GDP per head (EU/OECD LMP statistics)
- Share of training enterprises that benefitted from government subsidies and/or tax incentives to provide CVT (EU-CVTS)
- Share of participants in formal and/or non-formal education and training whose learning activities were fully/partially paid by public employment services (EU-AES)

Investment from enterprises

- Average costs of CVT courses per total employed persons/total working hours with breakdowns by size of enterprise, by economic activity and by type of costs (e.g., per

training hour, per participant, per person employed in enterprises providing CVT courses) (EU-CVTS)

- Share of costs of CVT courses of total labour costs (EU-CVTS)
- Average share of investment in training of employees (EIBIS)

Investment from individuals

- Share of participants in formal and/or non-formal education and training whose learning activities were fully/partially paid by themselves or by a household member or a relative (EU-AES, PIAAC)
- Household expenditure on non-formal education and training (EU-AES)

Investment is a stand-alone area/domain in each of the three existing frameworks/dashboards, and a focus on financing sources and destinations could lead to a comprehensive framework for adult learning expenditure. Presently, available data exists within the European Union, supplemented by the UNESCO-OECD- Eurostat (UOE) data collection on education systems. However, international progress is evident, such as the United Nations Economic Commission for Europe (UNECE)'s 2020 guide on education and training satellite accounts, which also covers expenditure of households and enterprises on non-formal training (United Nations, 2020_[12]). Despite these advances, most methodologies still predominantly target formal education, like the UOE data collection on education systems or the UNESCO's national education accounts (UNESCO-UIS, 2016_[13]).

3.2.4. Thematic Block 4: Participation in adult learning and its features

This thematic block aims to reflect the state of adult learning systems from the perspective of individuals. It covers not only the extent of their engagement as well as the qualitative dimensions of adult learning. This includes the diversity of learning forms, in terms of formality, job-related aspects, fields of study, and provider types. Additionally, it encompasses the delivery methods (including digital and online options) and the certification processes associated with adult learning activities.

This thematic block can be subdivided into six sub-themes:

Coverage

- Share of adults participating in formal and/or non-formal education and training (EU-AES, EU-LFS, PIAAC, COS 2) – the “global” participation indicator
- Employed persons participating in CVT courses among all employed persons working in enterprises providing CVT courses/among all employed persons (EU-CVTS)

Intensity

- Total time spent on education and training (EU-AES, PIAAC)
- Number of formal and/or non-formal learning activities undertaken (EU-AES)
- Average instruction hours per formal and /or non-formal learning activity (EU-AES)
- Average course hours by employed persons (EU-CVTS)
- Paid working time spent in CVT courses (EU-CVTS)

Type

- Formality:
 - Share of adults participating in formal education and training (EU-AES, EU-LFS, PIAAC, UOE, COS 2)
 - Share of adults participating in non-formal education and training (EU-AES, EU-LFS, PIAAC, COS 2, ESJS)
 - Share of adults participating in informal education and training, with breakdown of the source of learning (EU-AES, COS 2, ESJS)
- Job-relatedness:
 - Share of adults participating in job-related non-formal education and training (EU-AES, EU-LFS, PIAAC)
 - Share of participants/employees in guided on-the-job training (EWCS, ECS)
- Field of study:
 - Field of study of formal and/or non-formal education and training undertaken by adults (ISCED-F 2013) (EU-AES, EU-LFS and PIAAC for formal education and training only)
- Sponsorship:
 - Share of participants in formal and/or non-formal education and training whose learning activities were fully/partially paid by their employer or prospective employer (EU-AES)
 - Share of participants in formal and/or non-formal education and training during paid working hours (EU-AES, ECS)
 - Share of participants in employer-sponsored formal or non-formal education and training since starting the main job (ESJS, EWCS)
- Mode of delivery:
 - Share of formal and/or non-formal education and training activities organised online/on-site (EU-AES, PIAAC)

Provider

- Providers of the non-formal education and training engaged by individuals (EU-AES)

Certification

- Share of adults participating in non-formal education and training activities leading to a certificate (EU-AES)

Participation in learning can be measured in two key dimensions – coverage (e.g., share of participants) and intensity (e.g., instruction hours, number of learning activities).

The inclusion of specific sub-themes for tracking participation in adult learning is essential due to its policy relevance and important level of monitorability compared to other thematic blocks. Participation is a key measure in all Education at a Glance (EAG) publications, stands as the only monitoring indicator in the UN Sustainable Development Goals (SDG) framework, and is a crucial metric within the European employment and skills policy framework. It serves as a fundamental descriptor of adult learning system performance,

making it the most widely and consistently available data across countries, sourced from the EU Labour Force Survey (EU-LFS), the EU Adult Education Survey (EU-AES), the Survey of Adult Skills (PIAAC) and the UNESCO-OECD-Eurostat (UOE) data collection on education systems.

The selection of additional sub-themes within this thematic block was guided by their representation in existing frameworks and the availability of data, especially regarding learning types. It is important to highlight that, while various frameworks touch upon multiple qualitative aspects of adult learning, actual indicators for these dimensions are scarce. For instance, in the exiting theoretical framework published in 2013, several proposed indicators lacked data sources. Similarly, for the OECD Dashboard on priorities for adult learning (PAL), the flexibility sub-domain contained only two indicators. In response, the updated framework consolidates diverse qualitative characteristics of adult learning systems into a single thematic block. This approach maintains their visibility while acknowledging the challenges in collecting relevant data for monitoring and reporting on these aspects.

3.2.5. Thematic Block 5: CVT provision and characteristics

This thematic block covers indicators informing on the provision of training from employer's perspective as well as non-financial features of the training provided. In this unit, the initiative of adult learning is taken by enterprise instead of individuals as in the previous block.

This thematic block can be subdivided into three sub-themes:

Type of CVT

- Share of enterprises providing CVT with the available breakdown type of CVT (EU-CVTS)

Intensity of CVT

- Training hours in CVT courses per 1000 hours worked (EU-CVTS)

Provider of CVT courses

- Main providers of external CVT courses (EU-CVTS)

Assessment and certification

- Share of training enterprises assessing the outcomes of CVT activities (EU-CVTS)
- Share of training enterprises providing certification after written or practical test (EU-CVTS)

The decision to include a thematic block specifically for measuring the provision of Continuing Vocational Training (CVT) from the enterprise perspective is motivated by the importance of highlighting the role of business in offering (or not) training opportunities to their staff. This approach not only simplifies the framework but also ensures the comprehensive use of available indicators. While these indicators may not be collected regularly and are often limited to the European context, their inclusion aims to facilitate monitoring and encourage the gathering of similar data beyond the EU.

3.2.6. *Thematic Block 6: Outcomes of adult learning*

This thematic block covers indicators that capture the varied outcomes and, where applicable, the immediate outputs of adult learning systems and activities.

This thematic block can be subdivided into three sub-themes:

Qualifications and certifications

- Share of adults who successfully completed formal education and training, by level of education (EU-AES, EU-LFS, PIAAC)
- Share of adults who received certificate(s) from non-formal education and training (PIAAC)

Knowledge and skills

- Main skill acquired through non-formal education and training activities (EU-AES)
- Skills promoted during training activities (PIAAC)

Other outcomes

- Self-reported outcomes of the skills acquired through formal and non-formal education and training activities (diverse types of outcomes as well as the main outcome, including job-related) (EU-AES)
- The use of the skills acquired through formal and non-formal education and training activities (EU-AES)
- Share of adults reporting that the skills acquired through job-related non-formal education and training are useful/not useful (PIAAC)

The representation of outcomes in adult learning systems within pre-existing frameworks has been notably insufficient. This oversight is somewhat unexpected, considering the potential for numerous indicators to depict both the immediate and long-term effects of adult learning systems and activities. For example, indicators such as qualifications attained are consistently available from UNESCO-OECD-Eurostat (UOE) data collection on education systems and likely from most national Labour Force Surveys (LFS). Capturing the results of non-formal learning poses more of a challenge, yet it can be addressed through indicators like certifications received from learning activities, with data available from surveys like the Survey of Adult Skills (PIAAC). Moreover, insights into the types of knowledge or skills acquired can be drawn from the field of study or the training received, as reported in the EU Adult Education Survey (EU-AES). The EU-AES also gathers data on the long-term impacts of adult learning activities. Recognising the critical role this dimension plays in evaluating the effectiveness of any given system, the updated framework now includes a dedicated thematic block focused on the outcomes of adult learning, encompassing both short-term and long-term effects.

It is to be noted that the current data infrastructure has many limitations on the possibility to cover outcomes comprehensively and well. A major issue is the absence of longitudinal panel data over an extended period of time, which affects the ability to track employment status, employment progression, wages and salaries, skills use, productivity, social inclusion, and participation, among others. Even focussing on the cross-sectional outcomes of adult learning as from the EU Adult Education Survey (EU-AES), where participation is recorded in the last 12 months, several issues arise. Firstly, it is not possible to determine if the participation was concluded or ongoing, and if concluded, the outcomes are limited

to those materialized within the last 12 months, rather than reflecting long-term effects. Additionally, the data may lack granularity in capturing the quality and intensity of the learning experiences. Another difficulty is the potential underreporting or overreporting of participation due to recall bias. Lastly, there is a challenge in linking participation data with specific outcomes due to the diverse nature of adult learning activities and their varied impacts on different individuals. In some countries, such as Sweden, efforts have been made to measure the labour market outcomes of adult learning. The Swedish Adult Education Monitoring System follows graduates of municipal adult education and higher vocational education for up to ten years after graduation and examines their labour market status, earnings and other relevant indicators (see Box 4.3 for more information).

4. Country priorities and practices

To refine the theoretical framework for monitoring adult learning policies, the LSO Expert Network conducted a concise survey in 2023 to gather detailed feedback on the priorities and practices across countries. The survey aimed to ascertain:

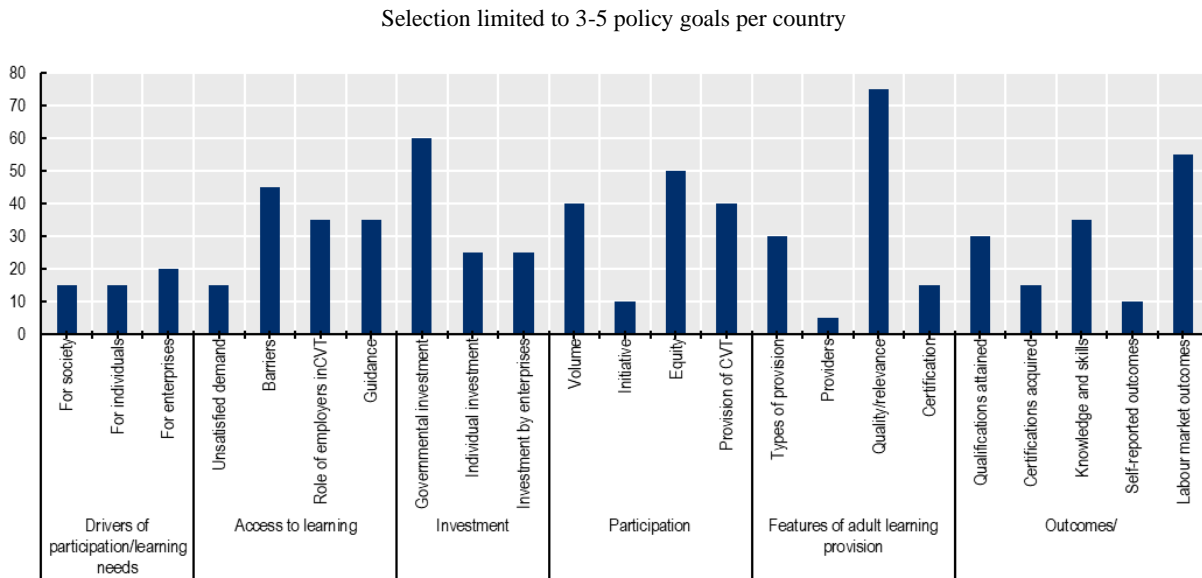
- Current policy priorities on adult learning across countries;
- The indicators implemented at the national (or, where relevant, subnational) level for monitoring adult learning;
- The data availability on adult learning from diverse sources and how it is utilised.

This concise survey took place in January and February 2023, receiving responses from 22 OECD member and accession countries.

4.1. National policy priorities for adult learning

The first section of the short survey focused on the hierarchy of national policy priorities for adult learning, utilising a list of themes from the updated framework. Respondents were asked to identify 3-5 sub-themes they considered most critical for their country. The outcomes of this prioritisation are displayed in Figure 4.1.

Figure 4.1. Percentage of countries selecting the following themes as top priorities in their country



Source: LSO Expert Network short survey on policy objectives, indicators, and data sources on adult learning.

The survey responses reveal the central themes in adult learning policy: quality/relevance, public investment, labour market outcomes, equity, and barriers to learning. Additionally, most themes were identified as critically important by at least 15% of the responding countries (meaning at least 3 countries), with the exception of the sub-themes of initiative, providers, and self-reported outcomes. Box 4.1 presents the example from the United States, illustrating the connection between policy priorities and their monitoring.

Box 4.1. Country example: Policy goals and monitoring adult learning in the United States

At the national level, adult learning and education policy goals in the United States are primarily focused on programs that aim to reduce barriers to employment via upskilling or reskilling or encourage career progression through formal education. The Workforce Innovation and Opportunity Act (WIOA) is the primary federal legislation in the United States that supports workforce development.

The Workforce Innovation and Opportunity Act (WIOA) is designed to help job seekers access employment, education, training, and support services to succeed in the labour market and to match employers with the skilled workers they need to compete in the global economy. It is important to note that this legislation defines adult education as "academic instruction and education services below the postsecondary level that increase an individual's ability to read, write, and speak in English and perform mathematics or other activities necessary for the attainment of a secondary school diploma or its recognised equivalent; transition to postsecondary education and training; and obtain employment" (<https://crsreports.congress.gov/product/pdf/R/R43789>). Policy goals related to this legislation are therefore tied to this definition and the specific target population, as compared to the broader definition of adult learning as specified in the Education at a Glance (EAG) handbook (OECD, 2018_[14]) <https://doi.org/10.1787/9789264304444-en>.

Of particular relevance to adult learning policy within this definition are Title I and Title II of the Workforce Innovation and Opportunity Act (WIOA). Notably, Title I - Workforce Development Activities authorises programs to provide job search, education, and training activities for unemployed or underemployed individuals seeking to gain or improve their employment prospects. The adult program under WIOA Title I is administered by the U.S. Department of Labor. WIOA establishes a priority requirement with respect to funds allocated to a local area for adult employment and training activities. Priority must be given to recipients of public assistance, other low-income individuals, and individuals who are basic skills deficient (<https://www.dol.gov/agencies/eta/wioa> and <https://crsreports.congress.gov/product/pdf/R/R44252>).

What concerns the Title II - Adult Education and Family Literacy Act (AEFLA), it is the largest federal investment programme in adult education and literacy, authorising education services to assist adults in improving their basic skills, completing secondary education, and transitioning to postsecondary education. AEFLA is administered by the U.S. Department of Education's Office of Career, Technical, and Adult Education (OCTAE). AEFLA supports educational services, primarily through grants to states, to help adults become literate in English and develop other basic skills necessary for employment and postsecondary education, and to become full partners in the education of their children. The purpose of the program is to provide educational opportunities below the postsecondary level for individuals 16 or older beyond the age of compulsory school attendance in their state who are not currently enrolled in school, who lack a high school diploma, and/or who lack the basic skills to function effectively in the workplace and in their daily lives (<https://aefta.ed.gov/laws-guidance>, <https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/index.html> and <https://crsreports.congress.gov/product/pdf/R/R43789>).

It is important to note that these programs may not capture the full picture of participation in adult education programs in the United States. Additionally, they only reflect goals and monitoring at the national level. As the United States is a federal country, there may be other goals and monitoring at subnational levels not captured in this information.

Source: LSO Expert Network short survey on policy objectives, indicators, and data sources on adult learning.

The survey also highlighted two key aspects concerning monitoring of adult learning in general. Box 4.2 presents an example from Canada, demonstrating the significant regional or local nuances in monitoring adult learning, which greatly influence their data collection and analysis practices.

Box 4.2. Country example: National and regional monitoring of adult learning in Canada

At the national level, The Government of Canada measures program success against expected outcomes, which are published in departmental performance reports (http://www.hrsdc.gc.ca/eng/publications_resources/dpr/index.shtml). At the same time, most provinces and territories also monitor and evaluate adult-learning and skills development programming.

For example, all school-district programs in British Columbia are part of regular audit processes. Provincial government staff, including contract managers, program

developers, and policy analysts, monitor and regularly evaluate English language-development programming. Program evaluations are conducted on a regular basis, assessing both program implementation and outcomes. Data systems and contract reporting capture output and outcome information on clients, and outcome surveys are used to assess impacts of programs on clients. Community-based adult-literacy programs and workplace-based programs are assessed using an evaluation framework that includes learner assessment against a common benchmark system and/or pre- and post-tests. Postsecondary-based adult-education and literacy programs are articulated, and student-outcomes surveys are conducted annually. Furthermore, enrolment targets exist for these programs to ensure minimum program-delivery levels.

Alberta's community-based literacy programs are implementing a common reading-benchmarks system that will support student evaluation and inform the development of programs. As well, enrolment targets are established, and outcomes are monitored. In Newfoundland and Labrador, sites delivering the provincial Adult Basis Learning (ABE) program are monitored by provincial consultants. External evaluations regarding the delivery of ABE Level 1 have been conducted. Levels two-thirds of the ABE program have not been externally evaluated. A provincial ABE database tracks ABE data and audits graduation requirements for Level 3. In Ontario, in addition to a third-party evaluation of literacy and basic-skills service providers that was undertaken in 2010-11, that province monitors service providers on an annual basis. Similarly, interim, and annual reporting and regular site monitoring are used in Nova Scotia to gather data for the evaluation of adult-learning and skills-development programming. Manitoba also monitors and evaluates programming.

In Quebec, stay-in-school and school-success indicators are built into partnership agreements between school boards and the Ministère de l'Éducation, du Loisir et du Sport. In response to its strategic plans and subsequent action plans, New Brunswick has engaged in a process to identify key performance indicators and performance measures for each of its programs. After ensuring that effective data-collection, storage, and reporting systems are in place, the province will complete the circle of monitoring and evaluation by establishing measures of success at program development and operational levels. A program-evaluation framework will be developed, and subsequent external evaluation will be undertaken. Monitoring and evaluation of adult-learning and skills-development programming in Northwest Territories was included in that territory's Adult Literacy and Basic Education Directive (2000). In Prince Edward Island, monitoring and evaluation mechanisms include monthly reports and program-completion reports.

Source: LSO Expert Network short survey on policy objectives, indicators and data sources on adult learning and https://www.cmec.ca/Publications/Lists/Publications/Attachments/283/GRALE_EN.pdf

Box 4.3 presents an example from Sweden, illustrating the challenges of effectively utilising administrative data and integrating it with other data sources, especially general and follow-up surveys.

Box 4.3. Country example: Monitoring adult learning in Sweden

The monitoring of adult learning systems in Sweden are done both through administrative data as well as through large-scale international surveys. In terms of administrative data, some examples of sources of information regarding adult education on lower secondary or upper secondary level include data on participation in municipal adult learning, data on teaching of Swedish language for immigrants as well as data on adult learning provision in folk high schools. Information on adult education on post-secondary level include for example register data on participants and teachers in higher vocational education. In terms of large-scale surveys, these are primarily surveys as coordinated by Eurostat and OECD, for example EU-LFS, EU-AES, EU-CVTS and PIAAC. The monitoring of adult learning via Eurostat surveys is done through national reports and publishing of indicators in databases at Statistics Sweden including SDG goal 4 indicators on education. The EU adult learning monitoring report is also used for reference.

A particular feature of adult learning monitoring system in Sweden are follow-up surveys, aiming to look at labour market situation and income for graduates a couple of years after graduation. Such follow-up surveys can be carried out by using register data about the labour market as available at Statistics Sweden. It is for example possible to follow graduates from municipal adult education or higher vocational education 1-10 years after they graduated and look at the situation of the graduates in the labour market, labour market income and other similar indicators. Likewise, persons with different levels of skills as measured in PIAAC can also be followed up on the labour market 2-10 years after the survey was conducted, by the use of such register data at Statistics Sweden.

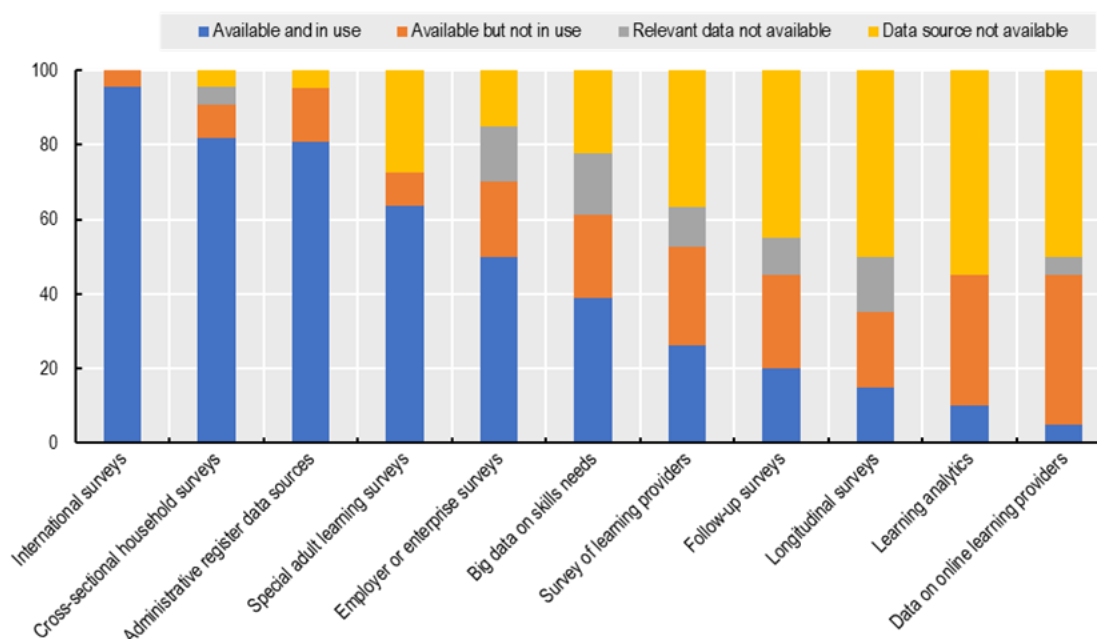
Source: LSO Expert Network short survey on policy objectives, indicators, and data sources on adult learning.

In response to the insights gathered from the LSO Expert Network's brief survey on policy objectives, indicators, and data sources concerning adult learning, the revised framework excludes two domains that were initially highly valued: quality/relevance and equity. For equity, the decision was based on its pervasive nature across both individual-level and enterprise-level indicators, leading to the conclusion that isolating it as a separate theme could distort its integrated role within the conceptual framework. Regarding quality/relevance, the predominant focus on long-term outcomes in existing indicators highlighted a gap in direct data on the quality or relevance of specific adult learning programs or activities. As for labour market outcomes, the reliance on self-reported data suggests a future need for developing more precise indicators in this area.

4.2. Availability and use of data sources covering adult learning at national level

Figure 4.2 presents the answers to the second section of the survey, which focused on the availability of data sources for monitoring adult learning and the use of such data (if available). Countries provided information on whether each data source was available in the country and, if so, whether it is used to monitor adult learning or if it lacks specific data on adult learning.

Figure 4.2. Distribution of countries reporting the availability and utilisation of different types of data sources



Source: LSO Expert Network short survey on policy objectives, indicators, and data sources on adult learning.

Every country that responded to the survey indicated access to at least one type of data source on adult learning, specifically “international surveys,” though not all these surveys might cover all OECD member countries. Other widely available and utilised data sources include cross-sectional household surveys and administrative register data, with at least 80% of responding countries employing them. Specialized surveys on adult learning, employer or enterprise surveys, big data on skills needs, and surveys of learning providers are also commonly reported as available by at least half of the responding countries. However, their use, apart from the specific surveys dedicated to adult learning, appears to be less frequent. The least commonly used data sources, such as learning analytics or data on online learning providers, were reported to be available in a considerable number of countries, although some expressed concerns about their reliability.

The following are examples of the data sources used by countries:

- European countries often point to pan-European surveys as crucial for monitoring adult learning activities, including the EU Adult Education Survey (EU-AES), the EU Continuing Vocational Training Survey (EU-CVTS), and the EU Labour Force Survey (EU-LFS). Countries outside Europe sometimes utilise their national surveys and data collections, as well as international surveys like the Survey of Adult Skills (PIAAC) and its predecessor surveys.
- In Canada, data from several national and international surveys are currently being used, including PIAAC, the International Study of Adults (ISA), and the Canadian ad-hoc Labour Force Survey supplement from 2022. Previous data sources included national surveys such as the 2002 Adult Education and Training Survey (AETS) and the 2008 Access and Support to Education and Training Survey (ASETS), as well as international surveys like the 2003 Adult Literacy and Life Skills Survey (ALL).

- In New Zealand, relevant data for adult learning is collected through the Labour Force Survey, the General Social Survey, the Business Operations Survey (an enterprise survey), the Integrated Data Infrastructure (an administrative data source), and Burning Glass job vacancy data.
- For the United States, while the Survey of Adult Skills (PIAAC) provides the most current data on adult learning, the newly introduced biennial National Training, Education, and Workforce Survey (NTEWS), first conducted in 2022 with anticipated results in 2024, is expected to become a significant resource for adult learning data.

4.3. Country-specific indicators used for monitoring adult learning

The last section of the survey focused on collecting information about indicators used at the national level for monitoring adult learning systems and policies. The next subsections present information provided by countries regarding national indicators on adult learning.

4.3.1. Austria

- Development of participation figures in basic education offerings in the Adult Education Initiative
- Number of graduates of compulsory school-leaving examinations
- Number of graduates of "apprenticeship with matriculation" scheme
- Number of graduates of the Berufsreifeprüfung (this four-part examination for external students provides general higher education entrance)

4.3.2. Canada

- Provinces and Territories: Most provinces and territories monitor and evaluate adult learning and skills development programming.
- Government of Canada: Measures program success against expected outcomes, as published in departmental performance reports (http://www.hrsdc.gc.ca/eng/publications_resources/dpr/index.shtml).

4.3.3. Czechia

- Participation in education and training in the previous 4 weeks (EU-LFS)
- Participation in formal, non-formal and informal learning (EU-AES)
- Participation in training of employees (Statistical Yearbook of Czechia, data from the CVTS)

4.3.4. Denmark

- Completion rates for adult- and continuing education programs (<https://uddannelsesstatistik.dk/Pages/Reports/1815.aspx>)
- Completion rates on adult learning by gender (DST) <https://www.dst.dk/da/Statistik/emner/uddannelse-og-forskning/voksen-og-efteruddannelse/voksenuddannelser>
- Number of companies that gives further training to employees (<https://www.dst.dk/da/Statistik/emner/uddannelse-og-forskning/voksen-og-efteruddannelse>)

- Number of participants in adult and continuing education (<https://uddannelsesstatistik.dk/Pages/Reports/1816.aspx>)
- Activity on adult and continuing education (<https://uddannelsesstatistik.dk/Pages/Reports/1819.aspx>)
- Yearly participants in adult learning and continuing education (<https://uddannelsesstatistik.dk/Pages/Reports/1818.aspx>)
- Test results on the labour market education programs (AMU) (e.g., How many have a labour market education program test and pass <https://uddannelsesstatistik.dk/Pages/Topics/150.aspx>)
- Adult and continuing education at companies (Continual Vocational Training Survey) (<https://www.dst.dk/da/Statistik/dokumentation/statistikdokumentation/virksomhedernes-efteruddannelse--cvts->)

4.3.5. Finland

Finland has set a parliamentary vision and objectives for continuous learning by 2030. The aim is for the Parliament to monitor the achievement of the objectives set for continuous learning on an annual basis.

Finland has identified nine key indicators for continuous learning, establishing current benchmarks and target levels to be achieved by 2030, denoted as (current percentage / 2030 target percentage):

- Employment rate of working-aged (24-64 years) people (79% / 85%). Source: EU Labour Force Survey (EU-LFS)
- Small and medium-sized enterprises that educate their employees (52% / 70%). Source: Small and medium-sized enterprises (SMEs) Barometer, Federation of Finnish enterprises
- Employers' recruitment problems background. Source: The Ministry of Economic Affairs and Employment analyses of workforce procurement at workplaces and How many new jobs were created? 2018-2021. Source: employer interviews conducted by Statistics Finland:
 - lack of basic education (68% / 50%)
 - lack of other required skills (47% / 35%)
- The workplace is such that it is possible to constantly learn (84% / 90%). Source: Working Life Barometer 2018-2021, Ministry of Economic Affairs and Employment.
- New working-age students in the following groups. Source: Statistic Finland.
 - without a post-primary qualification or unknown (13% / 30%)
 - unemployed and economically inactive (excl. students and pensioners) (22% / 30%)
 - people over 55 years of age (7% / 10%)
 - entrepreneurs (4% / 8%)
 - persons with a foreign background (15% / 20%)
- Participation in continuous learning over the previous 12 months, in the following groups. Source: Adult Education Survey (EU-AES), and later the EU Labour Force Survey (EU-LFS).

- people over 55 years of age (34% / 45%)
- unemployed (29% / 40%)
- people outside the labour force (48% / 60%)
- Level of education of working-age people (aged 25-64). Source: Population's educational structure, Statistics Finland
 - those without a post-basic qualification (14% / 10%)
 - those with only general education (19% / 15%)
 - people with a third-level qualification (42% / 50%)
- New 25-64 year olds in education taking a qualification that raises their level of education (60% / 70%). Source: Statistics Finland
- Competence and skills of working-age people. Source: Survey of adult Skills (PIAAC). The targets were not set for data other than those collected annually or every other year
- A difficulty to reconcile training with work or a lack of time due to family reasons as a barrier to education. Source: Adult Education Survey (EU-AES), No target was set.

Additionally, there is an extensive set of indicators published annually that evaluates continuous learning through the lenses of individuals, the workforce, education and training systems, and societal impact.

4.3.6. Flemish community of Belgium

- Share of the population participating in adult learning activities

4.3.7. Germany

Germany endorsed the EU-level target on adult education that at least 60% of all adults aged 25-64 should have participated in learning during the previous 12 months by 2030. To contribute to this EU-level target, Germany defined its national target to raise the participation rate in adult education to 65% by 2030.

Germany also aims at raising the participation rate of low-qualified adults in formal and non-formal learning as well as raising Information and Communication Technology (ICT) skills among adults (no specific targets has been set for these indicators).

Germany uses a comprehensive approach to monitoring adult learning, utilising a wide array of indicators to assess the scale, relevance, and effectiveness of adult learning. Key indicators include:

- Participation rates in non-formal education, categorised by age, gender, educational attainment, labour force status, and by type of skill or competence acquired
- Participation in continuing vocational education within enterprises, with a focus on small and medium-sized enterprises (SMEs)
- The variety of providers offering learning courses
- Expenditure on adult learning, broken down into total, public, and private expenditure

4.3.8. Hungary

In Hungary, the adult learning indicators are in coordination with the 2030 social targets and headline indicators accepted by the Porto Social Summit in 2021. The headline targets set in the Commission's European Pillar of Social Rights Action Plan:

- At least 47% of adults aged 25-64 should have participated in learning during the previous 12 months, by 2025
- At least 60% of adults aged 25-64 should have participated in learning during the previous 12 months, by 2030.
- The National Adult Learning headline target for 2030 is that at least 60% of adults aged 25-64 should participate in learning during the previous 12 months.

4.3.9. Lithuania

There are two areas of indicators relevant for adult learning: participation and tertiary attainment. The objectives are the following:

- Strategic goal indicator: Participation rate in education and training (previous 4 weeks) (2025: 10%, 2030: 15%).
 - Objective level indicators: 1. Participation rate in education and training (previous 4 weeks) for those aged 25-34 and those 55-74 (2025: 12.5% and 5.5%, 2030: 15% and 8%); 2. Individuals' level of basic (and above) digital skills (2025: 67%, 2030: 80%).
 - Measure level indicators: 1. Total number of participants; 2. Inactive individuals; 3. Individuals with below lower secondary education attainment; 4. Individuals with upper secondary education attainment or vocational education attainment; 5. Minorities participation rates; 6. Individuals using learning opportunities provided through a single electronic system; 7. Implementation of the Adult Education Act, , establishing a coordinated lifelong learning system model and its operating principles; 8. 18-65 year-olds who have completed training in quality assurance systems through the general lifelong learning system; 9. Career specialists, providing services in schools, number, etc.
- Strategic goal indicator: tertiary education attainment (25–34 year-olds) (2025: not less than the EU average, 2030 not less than the EU average)
 - Objective level indicators: 1. Share of students of vocational schools who studied by way of apprenticeship, from the number of students who obtained qualifications in the respective year (2025: 8%, 2030: 15%.); 2. Distribution of pupils and students enrolled in upper secondary education (2025: 35%, 2030: 36%); 3. Proportion of students in Science, Technology, Engineering or Mathematics (STEM) fields compared to all tertiary education students (2025: 30% (males: 70%, females: 30%); 2030: 33% (males: 65%, females: 35%)), 4. Share of tertiary education graduates employed in positions required for the relevant qualification within 12 months after graduation, out of all employed and non-continuing graduates (2025: 71.3%, 2030: 76%), 5. Employed persons aged 20–34 who received a vocational education diploma together with upper secondary education 1-3 years before or after obtaining upper-secondary education attainment (2025: 80%, 2030: 82%).
 - Measure level indicators: 1. Proportion of students from disadvantaged groups who received support for improving access to vocational education; 2. Part of vocational education institutions that organize vocational education programs in the form of

apprenticeship; 3. Increase in the number of students studying secondary education programs in comprehensive schools and completing modules of the initial vocational education program, etc.

4.3.10. Latvia

Due to limited availability of regular data, the available indicators primarily focus on outputs and outcomes related to participation metrics:

- Share of people aged 25 to 64 who participated in education or training in the previous 4 weeks or in previous 12 months. Target in the 4-week methodology: at least 12% of adults by 2027.
- Share of employees aged 25 to 64 who participated in education during paid working hours, out of all employees who participated in educational activities. Target: 55% by 2027.
- Level of digital skills of persons aged 16-74 according to the Digital Economy and Society Index (DESI), Human capital indicators: (a) At least basic digital content creation skills, (b) Above basic digital skills; (c) Information and Communication Technology (ICT) Specialists. Target: at least 70% of adults have at least basic digital skills by 2027.
- Share of the population aged 15-74 who have only completed general secondary education.

4.3.11. Netherlands

- All education and training courses attended by adults between the ages of 25 and 65 years (both in work and not in work) at this time or in the previous four weeks. This includes formal and/or non-formal educational activities such as training courses, workshops, or private lessons. By age, highest education, work/non, contract type, etc.
- Other indicators: a questionnaire to monitor if adults also learn in informal ways.
- Specific schemes are also being monitored: the "Netherlands continues to learn" initiative offers additional schooling and career advice for those facing labour market challenges due to the COVID-19 pandemic; the "STAP-budget" (Stimulans ArbeidsmarktPositie) provides individuals with financial aid to pursue training, aiming to improve their labour market position through skill development; employers benefit from the "SLIM-budget," which supports the creation of learning-work environments and the upskilling of staff, ensuring the workforce remains competitive and skilled amidst evolving market demands.

4.3.12. New Zealand

Data is available for the following areas of adult learning (there are no specific targets):

- Literacy and numeracy skills of the adult population (PIAAC)
- Participation and completion in formal tertiary education by age groups
- Participation and completion in funded work-based training by age groups
- Participation in non-formal, funded tertiary education by age groups

4.3.13. Norway

Both register data and surveys are used to monitor adult learning. There are no specific targets set for yearly or periodic benchmarking. Statistics Norway collects datasets containing variables about formal education. These records can also be used with adult background records. The Learning Conditions Monitor (LCM) is an ad-hoc module to the EU Labour Force Survey (EU-LFS), with questions about participation in formal and non-formal education. There are surveys that address the business sector, such as the EU Continuing Vocational Training Survey (EU-CVTS), but none that are conducted by Statistics Norway. Data collected by The Norwegian Labour and Welfare Administration is as important in assessments concerning adult learning and skills needs.

4.3.14. Portugal

- Number of registrations in the Qualifica Programme;
- Number of adults referred by Qualifica Centres;
- Number of adults certified in the scope of the Qualifica Programme.

4.3.15. Slovak Republic

- Share of the population participating in adult learning activities.

4.3.16. Spain

- Adult participation (25 -64) in learning (previous 4 weeks) by gender, educational attainment, age group, formal/non formal education, and labour market status (EU Labour Force Survey (EU-LFS)).
- Participation of employees (25-64 year-olds) in learning (previous 4 weeks) by gender and NACE (Nomenclature of Economic Activities) activity (EU Labour Force Survey (EU-LFS)).
- Adult participation (25-64 year-olds) in learning (previous 12 months) by gender, educational attainment, age group and formal/non-formal education (EU Adult Education Survey (EU-AES)).
- Participation in adult education programmes inside education system by gender, age, citizenship, and type of programme.
- Percentage of enterprises providing training by type of training and size class (EU Continuing Vocational Training Survey (EU-CVTS)).
- Participants in Continuing Vocational Training (CVT) courses by gender and size class (EU Continuing Vocational Training Survey (EU-CVTS)).
- Adult participation (25-64 year-olds) in learning by gender, educational attainment, and age group (EU Labour Force Survey (EU-LFS)).
- Population not participating in education or training by main reason, gender, age, and educational attainment (EU Adult Education Survey (EU-AES)).
- Adult participation in formal and/or non-formal education, by the PIAAC literacy proficiency level and educational attainment (OECD Survey of Adult Skills (PIAAC)).

4.3.17. Sweden

Participation in formal adult education (second-chance education) is of interest in Sweden. Below examples of indicators used in Sweden.

- Drivers of adult learning:
 - Completion rates from lower secondary and upper secondary general/vocational education
 - Educational attainment of young adults/adults (below upper secondary, upper secondary and post-secondary level)
 - Young persons without upper secondary degree not in employment or studies
- Municipal adult education, folk high schools, and vocational higher education:
 - Number of full-time students
 - Proportion of students who have passed their courses
 - Employment after finalised studies on lower secondary and upper secondary level within municipal adult education (includes also Swedish for immigrants)
 - Proportion of graduated students from vocational higher education who are working one year after finalized studies by educational programme and gender
 - Proportion of graduated students from vocational higher education who are working within the area of their studies one year after finalized studies by educational programme and gender
- General indicators on participation and features of adult learning and continuing vocational training:
 - Participation rates in formal and/or non-formal learning during a 12-month/4-week period by 16-64/25-64 year-olds by gender, age group, educational attainment, foreign/native born, employment status and other background variables
 - Participation rates in formal and/or non-formal job-related/employer sponsored learning during a 12-month/4-week period by 16-64/25-64 year-olds by gender, age group, educational attainment, foreign/native born, employment status and other background variables
 - Volume/incidence of non-formal learning during a 12-month period by 18-69/25-64 year-olds by gender, age group, educational attainment, foreign/native born, etc.
 - Volume/incidence of non-formal job-related/employer sponsored learning during a 12-month period by 18-69/25-64 year-olds by gender, age group, educational attainment, foreign/native born, etc.
 - Provision of continuing vocational training (CVT) by enterprises by sector/economic activity
 - Enterprises investment in continuing vocational training (CVTS) through share of employed persons participating in courses, average course hours by employed persons, average costs for participating in training courses by employed persons and share of costs for employed persons participation in courses of total labour costs.
 - Obstacles/barriers to participation

4.3.18. Switzerland

- Participation in training/adult learning
- Training hours
- Employer sponsorship
- Orientation of training (job- or non-job-related training)
- Themes
- Satisfied demand for learning (wish to participate, wish to participate more)
- Obstacles/barriers to participation
- Participation of graduates from vocational upper secondary education who are 25 year-olds or older

4.3.19. Republic of Türkiye

TurkStat provides to Eurostat the main data used for monitoring is participation in lifelong learning data. Other data such as for learning outcomes may also be used drawing from special adult learning surveys.

4.3.20. United Kingdom

- Value added per learner in further education (FE) (index based on the 2022/23 academic year)
- Further Education (FE) Skills Index
- Participation in further education (FE) and skills by adults aged 19 and over, and 25 and over
- Total number of starts on apprenticeships (standards)
- Total number, and rate, of achievements on apprenticeships (standards and frameworks)
- Total number of Skills Bootcamps starts and completion
- Percentage of recent higher education graduates entering work in high-skilled employment
- Full-time undergraduate higher education (HE) accepted applicants
- Adult Further Education and Skills completions excluding community learning and non-qualification parts of Multiply – national, lowest skilled areas
- Percentage of further education and skills providers, rated good or outstanding by Ofsted by region
- Full-time first degree completion rate (%)

4.3.21. United States

The Workforce Innovation and Opportunity Act (WIOA) mandates an independent national evaluation of adult education programs funded under Title II. A report on this evaluation was released in 2023 (https://ies.ed.gov/ncee/projects/evaluation/pathways_wioa.asp). States must submit an annual performance report, including information on levels of performance achieved with respect to the primary indicators of performance.

There are six primary indicators of performance focused on employment rates, median earnings, credential attainment, measurable skills gains and effectiveness in serving employers. Performance data also track information on participant characteristics including demographics (e.g., gender, age, ethnicity) and employment barriers such as English language learners, homeless individuals, low-income individuals, migrant and seasonal farmworkers, or individuals with disabilities (<https://aefta.ed.gov/accountability> and <https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/accountability-reporting.html#spr>).

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Annex A. Acronyms and abbreviations

Acronym/abbreviation	Full name
ALL	Adult Literacy and Life skills Survey
Cedefop	European Centre for the Development of Vocational Training
CIS	Community Innovation Survey
CLA	Classification of Learning Activities
COFOG	Classification of the Functions of Government
COS	Cedefop opinion survey
CVET	Continuing Vocational Education and Training
CVTS	Continuing Vocational Training Survey
ECS	European Company Survey
EEA	European Economic Area
EIBIS	European Investment Bank Group Survey on Investment and Investment Finance Survey
ESIF	European Structural and Investment Funds
ESJS	European Skills and Jobs Survey
ESSPROS	European System of Integrated Social Protection Statistics
EU	European Union
EU-AES	Adult Education Survey
EU-CVTS	European Union Continuing Vocational Training Survey
EU-ICT	EU Survey on ICT usage in households and by individuals
EU-HBS	Household Budget Survey
EU-SILC	Survey on Income and Living Conditions
Eurofound	European Foundation for the Improvement of Living and Working Conditions
EWCS	European Working Conditions Survey
GOJT	Guided on-the-job training
HETUS	Harmonized European Time Use Surveys
IALS	International Adult Literacy Survey

Acronym/abbreviation	Full name
ICT	Information and Communication Technologies
ISCED	International Standard Classification of Education
JVS	Job Vacancy Statistics
LCS	Labour Cost Survey
LMP	Labour Market Policies
LSO	Network on Labour market, economic, and social outcomes of learning
OECD	Organisation for Economic Co-operation and Development
PIAAC	Programme for the International Assessment of Adult Competencies
SDG	Sustainable Development Goals
SES	Structure of Earnings Survey
UOE	UNESCO-OECD-Eurostat
WIOA	Workforce Innovation and Opportunity Act